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ABSTRACT

The essential characteristics of the Safe Performance Curriculum and the Pre- Driver Licensing Course are described, and the administrative guidelines for their implementation provided. The course was pilot tested in the Kansas City, Missouri school system in 1973 and 1974. The instructional approach uses a combination of independent study, classroom instruction, guided learning, range and on-street instruction, and adult supervision. The Safe Performance Curriculum is presented in eight units: introduction, basic control skills, normal driving, environmental factors, complex perceptual skills, driver influences, emergency skills, and nonoperational tasks. An outline of these units is followed by brief descriptions of the evaluation measures used in the pilot test: pre/post driving knowledge test, unit knowledge tests, basic skills range test, perceptual skills test, evasive range test, on-road performance test, and an attitude measure. Scheduling requirements and a list of equipment and facilities needed are outlined. Three-fourths of the document consists of appended material, including the following tests, with administrator guidelines: driving knowledge, unit knowledge, basic skills range, on-road performance, and general driving knowledge (attitude). The master course schedule and project staffing requirements are also appended. (Author/SA)

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ED126241

DRIVER EDUCATION CURRICULUMS FOR SECONDARY SCHOOLS

USER GUIDELINES

Safe Performance Curriculum and Pre-Driver Licensing Course

U.S. DEPARTMENT OF HEALTH EDUCATION & WELFARE NATIONAL INSTITUTE OF EDUCATION

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September 1974

FINAL REPORT

Prepared for

DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Office of Driver and Pedestrian Research,
Research and Development
Washington, D.C. 20590

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DRIVER EDUCATION CURRICULUMS FOR SECONDARY SCHOOLS

USER GUIDELINES

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The contents of this report reflect the views of the Human Resources Research Organization which is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policy of the Department of Transportation. This report does not constitute a standard, specification, or regulation.

PREFACE

The work described herein was performed under Contract DOT-HS-003-2-427 to the National Highway Traffic Safety Administration (NHTSA), U.S. Department of Transportation. Work under this contract was performed jointly by the Human Resources Research Organization (HumRRO), Alexandria, Va., and the Central Missouri State University (CMSU), Warrensburg, Mo.

The purpose of this report is to describe the administrative and support requirements for implementation of the Safe Performance Curriculum and the Pre-Driver Licensing Course, pilot tested in the Kansas City, Missouri school system during the Summer and Fall semesters of 1973, and the Spring semester of 1974.

Instructor guidance packages and student materials for each course, which were revised following each pilot administration, are provided under separate cover.[1]

An explanation of the research program and the results of the intermediate criterion measures administered as a part of the pilot test are provided in the report, "Safe Performance Curriculum for Secondary School Driver and Traffic Safety Education: Phase II - Technical Findings."[2]

[1] "Safe Performance Curriculum, Instructor Guidance Materials;" "Safe Performance Curriculum, Student Materials;" and "Pre-Driver Licensing Course, Instructor Guidance Materials," prepared by the Human Resources Research Organization (HumRRO) under Contract DOT-HS-003-2-427 to the National Highway Traffic Safety Administration (NHTSA), U.S. Department of Transportation.

[2] Also prepared by HumRRO under Contract DOT-HS-003-2-427.

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INTRODUCTION

The Safe Performance Curriculum for Secondary School Driver and Traffic Safety Education was a component of a research study intended to determine whether secondary school driver education is capable of reducing accident frequency and severity.

The origin of the Safe Performance Curriculum lies in the results of a comprehensive and detailed analysis of the driver's tasks.[1] It was the instructional objectives derived from the task analysis that served as the basis for development of the Safe Performance Curriculum.

Under the research program, students receiving the safety and performance-oriented instruction of the Safe Performance Curriculum were compared with students instructed under a "Pre-Driver Licensing" course, designed to provide the minimum skills necessary to obtain a driver's license. Knowledge and performance measures were administered to students in both curricula to determine the effectiveness of each form of instruction. (The results of this evaluation are presented in the report, "Safe Performance Curriculum for Secondary School Driver and Traffic Safety Education: Phase II - Technical Findings," prepared under this contract.)

The pilot test of the curriculums took place in the Kansas City, Missouri school system during the Summer and Fall semesters of 1973, and the Spring semester of 1974. Instructor guidance packages and student materials for each course were revised following each pilot administration. The most recent version of these materials accompany this report.

In this report, the essential characteristics of the Safe Performance Curriculum and the Pre-Driver Licensing Course will be described, and the administrative guidelines required for their implementation will be provided.

GENERAL INSTRUCTIONAL APPROACH

The Safe Performance Curriculum is administered in six basic instructional modes:

- Independent Study
- Classroom
- Guided Learning
- Range
- On-Street
- Adult Supervision

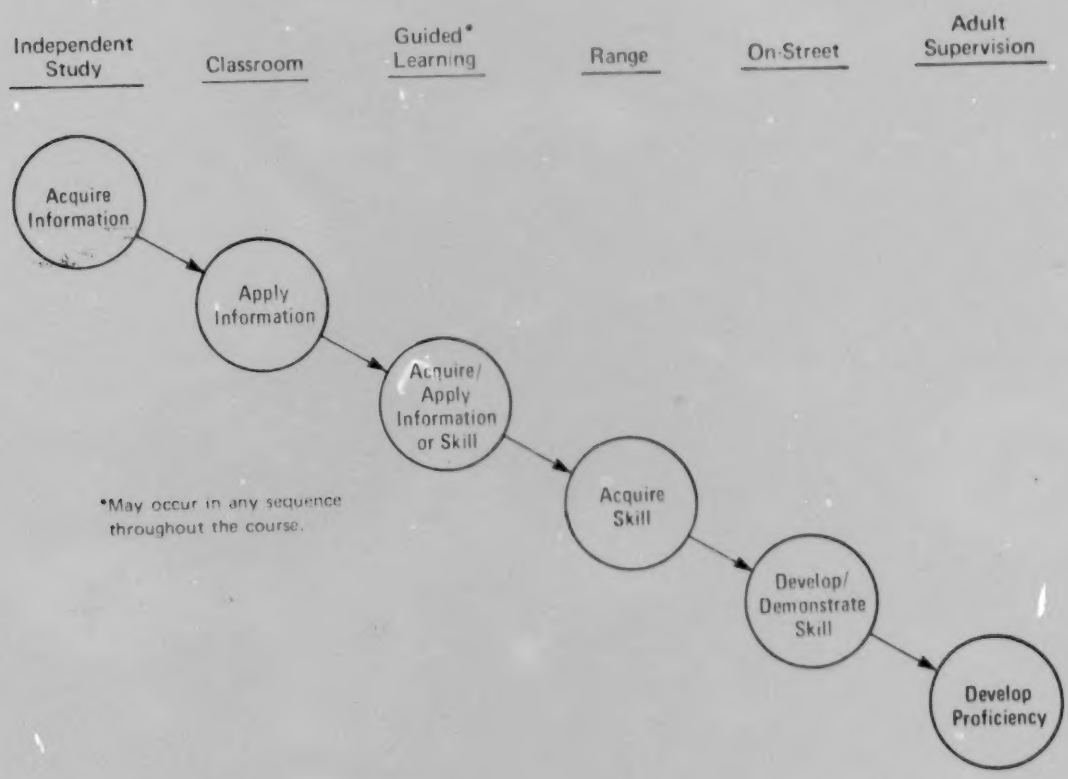
[1] McKnight, A. James, and Adams, Bert B. *Driver Education Task Analysis, Volume I: Task Descriptions.* HumRRO, Alexandria, Va., November 1970.

McKnight, A. James and Adams, Bert B. *Driver Education Task Analysis, Volume II: Task Analysis Methods.* HumRRO, Alexandria, Va., November 1970.

McKnight, A. James and Hundt, Alan G. *Driver Education Task Analysis, Volume III: Instructional Objectives.* HumRRO, Alexandria, Va., March 1971.

McKnight, A. James and Hundt, Alan G. *Driver Education Task Analysis, Volume IV: Development of Instructional Objectives.* HumRRO, Alexandria, Va., March 1971.

The diagram below shows the basic objectives of each instructional mode and the way in which the modes relate to one another.



Student/Teacher Ratios. In the pilot implementation of the Safe Performance Curriculum, the student/teacher ratio for classroom was 30 to 1; simulator and range - 16 to 1; and on-street 3 to 1 (per 55-minute session). The student/teacher ratio in Guided Learning, which forms a complement to simulator and behind-the-wheel instruction, varies according to the schedule. In many instances, more than one instructor was available for each of the modes. Student/teacher ratio for each session is given in the "Master Course Schedule" (Appendix F).

INDEPENDENT STUDY

Many of the instructional objectives toward which the Safe Performance Curriculum is directed can be attained by the student through independent, out-of-class study. Such study may take place during the student's free time at school or out of school entirely.

Most driver education instruction that is concerned with straightforward presentation of information can be handled through independent study material. In the case of the Safe Performance Curriculum, the use of independent study material was considered not only advantageous, but a necessity. The amount of information that must be acquired by the student to meet the instructional objectives surpasses that which can be accommodated through classroom instruction. Unless maximum use is made of the student's

out-of-class time, it would not be possible to meet the objectives set forth in the curriculum.

A major challenge to the use of independent study materials is motivating the student to use it. Secondary school students are not distinguished for their willingness to devote free time to scholastic pursuits. However, there is a motivating factor present in driver education that is lacking in most other academic subjects—most young people want to drive. For this they need a license, which, in many states, requires a driver education certificate.

Of course, the student's interest in driving will be applied to independent study only if the instructor requires it. Should the instructor permit students to enter behind-the-wheel instruction without adequate preparation, or should the necessary instruction be provided during class time, the incentives will be lost.

A second major concern in the development of independent study material is the ability of students to assimilate and retain the information it provides. To be effective, independent study materials must (1) use simple, non-technical language, calling for no more than an 8th grade reading level, (2) have high "human interest" value with extensive use of examples and illustrations, (3) provide a clear identification of objectives at the outset and a summary of content relative to the objectives at the conclusion, and (4) provide self-evaluation measures to enable students to identify their own level of mastery.

While the independent study material developed for the curriculum concentrates primarily upon the communication of information, it also provides exercises requiring the student to apply information, thus improving retention and allowing some skill development to occur outside of class.

Independent study materials in the Safe Performance Curriculum are fashioned into a "Learning Activities Package" or LAP. The LAP represents a sort of navigational aid which helps to guide the student through the educational process. A separate LAP is provided for each module (see Curriculum Outline, page 15) and identifies all of the learning activities required to attain module objectives. Specifically, the LAP provides: (1) an introduction or "overview" of the LAP; (2) a rationale for studying the material in the LAP; (3) a list of instructional objectives; (4) instructional materials related to the objectives; (5) sources of additional relevant materials; (6) exercises; and (7) a check-point test or other self-evaluative measure. The various learning activities, once identified in the LAP, can be performed at the student's own pace. Therefore, it provides a degree of individualization to the instructional process.

CLASSROOM INSTRUCTION

If independent study materials are to bear the burden of presenting information, then classroom instruction should not be used for this purpose. The most cost-effective use of classroom instruction is in providing interactions among students and between students and instructor.

In the classroom, the learning activities of students are "directed" by the instructor. Through questions, classroom exercises, and various types of visual presentations, the instructor gets students to recall and apply information they have acquired through independent study. Students, for example, may "talk through" the task of making the right turn at an intersection, applying principles of observing, communicating, adjusting speed, and positioning. Other variations of classroom instruction include (a) group discussion of alcohol and drugs, (b) roleplaying post accident activities, (c) map exercises in route planning, and (d) simulated vehicle servicing activities.

Simulation

In the Safe Performance Curriculum, simulation is treated as an audiovisual aid to classroom instruction rather than as an independent instructional mode or "phase." The purpose of maintaining this classroom orientation is to encourage instructors to:

1. Alternate between simulation and other forms of instruction during class, rather than conduct simulation entirely in one hour blocks.
2. Integrate simulation with other instructional content in a coordinated program, rather than accepting simulator films as independent packages.
3. Become more involved in programming and maintaining student simulator learning experience.

The alternation of simulator and other forms of classroom instruction in the Kansas City pilot program was constrained by a lack of classroom space and the consequent need to use trailer-mounted equipment. However, the remaining aspects of the approach described above have been maintained. Simulator programs have been reconfigured to support other classroom and behind-the-wheel instruction. Instructor guidance provides for a high-level involvement of the instructor in programming experiences and providing student feedback. Finally, an attempt has been made to confine the use of simulation to that which it does best, that is:

- Permit low cost familiarization with vehicle displays and controls.
- Permit application of normal driving principles by exposing students to a selected set of simulated tasks.
- Develop perceptual skills through visual simulation of complex traffic patterns.
- Aid in the selection of emergency evasive responses through visual simulation of driving emergencies.

Simulation was not intended to assist in the development of manipulative skills. The development of these skills would require a realistic vehicle response to the driver's control actions. In the simulation devices available to driver education, the motion of the vehicle, as reflected in the visual display, is "frozen" on film and cannot respond to the driver's controls.

GUIDED LEARNING

Guided learning sessions are provided in an attempt to individualize instruction. These sessions allow students to (1) interact with the instructor in an analysis of areas the student needs to work on, and (2) actually work on those learning problems. These sessions provide time, not only for slow learners to cope with deficiency problems, but for advanced students to work ahead. While guided learning sessions address particular topics with the aid of specific instructional materials and devices, the course of instruction is primarily responsive to individual student needs, rather than a prepared plan.

Guided learning sessions are not study halls or lectures. The ingredient which makes them different is the input provided by the instructor. The instructor helps the student get connected with those learning resources which would be most helpful to him at the time. The instructor's role in these sessions is *not* that of a tutor, where he instructs individual students in the course content. Rather, the student engages in his own instruction. This can involve reading, viewing filmstrips, or possibly working with a small group of students on an exercise. If space is available in the simulator lab or on the range, students may also participate in those activities. In addition, if two instructors are available during this session, one might take students with performance-related problems on-street for additional behind-the-wheel practice.

The number of students who can engage in guided learning at any one time is necessarily limited if guided learning is to be truly individualized. In the Safe Performance Curriculum, guided learning forms a complement to simulator and behind-the-wheel instruction, absorbing that portion of the class which is not otherwise engaged (generally 3 to 15 students).

Progress Charts

Guided learning presumes that the teacher can follow the exact progress of each student, to insure that each student meets all of the course objectives. In response to this need, Progress Charts were devised. Progress Charts are forms for keeping track of the range and on-street achievements of each student in the Safe Performance Curriculum.

INSTRUCTOR COPY
RANGE PROGRESS CHART

CODE: ✓ = Satisfactory
NP = Needs Practice

TASKS	SR1	SR2	SR3	SR4
Car #:				
Pre-Starting Procedures				
Starting Procedures				
Accelerating				
Stopping				
Lane Positioning				
Following				
Left Turns				
Right Turns				
Serpentine				
Lane Changing				
Blending: One-way streets				
Following: Two-way streets				
Lane Posit: Two-way streets				
Turning ag. traffic (gap)				

A sample of the Range Progress Chart is shown here. One side of the chart (shown at left) details performances for each lesson and provides space for the instructor to note whether the student can perform the given task or whether he needs more practice. Darkened areas indicate task "concentrations" for each lesson.

Instructor Initials & Date	A (✓)	COMMENTS
SR1: Introduction–Basic Control		Car #
SR2: Basic Control–Turns, Serpentine, Lane Changes		Car #
SR3: Following, Lane Positioning, Gap Discrim.		Car #
SR4: Range Test		Car #

The other side of the chart (shown above) provides space for the instructor to "comment" on student performance for each lesson. Each student is also required to keep his own Progress Chart. The purpose of the student copy is (1) to encourage the student to participate more actively in his own learning process by thinking about his own needs, and (2) to give a visual record of accomplishments, with the hope that success will encourage further achievement. (A more detailed explanation of the Progress Charts

and how they can facilitate the successful operation of a guided learning session is given in the Unit 1 Instructor Guidance Package, which accompanies this report.)

RANGE

The role of off-street or "range" instruction in the Safe Performance Curriculum is primarily one of providing initial development of vehicle operating skills. Any off-street area of sufficient size can be used for this mode, provided that traffic conditions can be structured. In comparison with on-street instruction, this mode of instruction provides (1) *economy*—one or two instructors can supervise eight off-street vehicles, allowing a lower student/teacher ratio than the one-to-one relationship that prevails on street, and (2) *control*—the roadway configurations and traffic patterns are under the teacher's control to a far greater extent than they are on-street.

The specific skills toward which off-street instruction is directed include the following:

- Basic vehicle control—Initial development of skill and lateral and longitudinal control of the vehicle can be provided without complicating roadway configurations or the interference of traffic.
- Normal Driving—Initial skill in interacting with various roadway configurations or traffic conditions can be provided under conditions of gradually increasing complexity.
- Emergency Skills—A variety of emergency conditions can be simulated (e.g., blocked lane), allowing safe development of emergency skills.

Since the focus of off-street instruction is upon student-vehicle interaction, a minimum of time is devoted to simple communication of information, a function most cost-effectively handled through independent study material or classroom instruction.

ON-STREET INSTRUCTION

The function of on-street instruction is to permit development, evaluation, and diagnosis of the full array of skills required in actual driving. It is only on-street that the full range of driving tasks are encountered. Some tasks are not handled well on-street because they tend to occur very infrequently. Those that are sufficiently critical to warrant concern (e.g., emergencies) must be simulated in some off-street environment such as a range or driving simulator.

In the Safe Performance Curriculum, on-street instruction focuses almost entirely upon the more complex skills required in coping with normal roadway and traffic conditions. (Adverse weather conditions are dealt with whenever they arise during the course of on-street sessions.) Relatively less attention is given to instruction and evaluation concerned with basic vehicle control, since these skills are more cost-effectively dealt with through off-street instruction. Again, simple communication of information—except for provision of feedback on student performance—is confined to classroom and independent study preparation.

ADULT SUPERVISION[1]

A driver education course which seeks to develop high levels of skill must first assure the attainment of fundamental, lower-level skills. Instruction in complex perceptual

[1]The application of the adult supervision mode in the Kansas City pilot program was attenuated by Missouri law, which permits students between the ages of 15 and 16 to operate a *(Continued)*

skills and evasive maneuvers will not be effective unless students have first mastered basic control skills and the ability to apply these skills to normal driving. Attempting to attain a mastery of fundamental skills purely through formal secondary school instruction does not seem cost-effective if, indeed, it is even possible.

One alternative route to mastery of low-level skills is through out-of-school practice under the supervision of a responsible adult, e.g., parent. The role of the adult is confined to supervision (rather than instruction) and includes (1) selecting the driving environments that will provide the necessary practice, (2) being responsible for the safety of the vehicle, and (3) reporting upon general progress as well as specific strengths and weaknesses of the student. Efforts in this regard are guided by written printed materials furnished by the instructor.

It may be anticipated that students will receive supervised practice, under the guidance of parents or friends, whether or not such practice is fostered by the instructor. By providing the guidance materials, the instructor may help see to it that adult efforts support, rather than detract from, formal school instruction.

The amount of time allocated to each of the instructional modes will be described later, within the context of the curriculum units. What follows is a brief description of the curriculum organization.

CURRICULUM ORGANIZATION

The Safe Performance Curriculum is divided into eight instructional units, each representing a set of objectives* that are relatively homogeneous with respect to their underlying instructional requirements. Each unit, with the exception of Units 1 and 6, is then divided into "modules" of a scope and size appropriate to an individual instructional experience. A brief description of the instructional objectives for each unit is as follows:

Unit 1 Introduction: To acquaint the student with the goals content, methods, and requirements of the Safe Performance Curriculum.

Unit 2 Basic Control Tasks: To enable the student to control the longitudinal and lateral motion of the car and to execute simple maneuvers.

Unit 3 Normal Driving: To enable the student to apply the procedures required for safe driving under normal highway and traffic conditions.

Unit 4 Environmental Factors: To enable the student to apply safe driving procedures under degraded environmental conditions.

[1] *(Continued)*
motor vehicle on public streets only under the supervision of a certified driver education instructor. Since the majority of the students involved in the Kansas City program were under the age of 16, adult supervision materials concentrated upon practice which could be provided on off-street facilities. However, establishing and maintaining contact with parents was not feasible, due to other administrative considerations which took priority over the implementation of this mode. A current NHTSA study (Contract DOT-HS-4-00993) involves the development, pilot testing, and evaluation of a parent participation program in driver education in-car instruction. Materials developed under this contract will be used in the Adult Supervision Mode of the Safe Performance Curriculum. The work is being performed by the Human Resources Research Organization (HumRRO), Alexandria, Va.

*As noted in the Introduction, it was the instructional objectives derived from the *Driver Education Task Analysis* which served as the basis for the development of this curriculum.

Unit 5 Complex Perceptual Skills: To enable the student to deal effectively with situations involving complex stimulus patterns.

Unit 6 Driver Influences: To enable the student to control, recognize, and compensate for the effect of factors that degrade his ability to operate an automobile.

Unit 7 Emergency Skills: To enable the student to select and carry out responses required to handle sudden emergencies.

Unit 8 Non-Operational Tasks: To enable students to prepare themselves and their vehicles for responsible operation within the highway transportation system.

Units 1, 2, and 3 constitute what might be called "basic" driver education. Units 4, 5, and 7 constitute what might be called "advanced" instruction. Units 6 and 8 deal with the "non-driving" aspects of vehicle operation.

An outline of the module breakdown within each unit is presented on the following page. Note that Units 1 and 6 are not broken down into modules, since the instructional objectives for those units were such that content could be presented within a single "module" or unit. The chart on page 16 shows, by curriculum unit, how much *time* is devoted to each instructional mode in both the Safe Performance Curriculum and the Pre-Driver Licensing Course.

PRE-DRIVER LICENSING COURSE CONTENT SUMMARY

Instructor Guidance Packages for the Pre-Driver Licensing (PDL) Course accompany this report. These packages provide detailed instructions for the conduct of each lesson in the PDL Course. In general, within the purpose of preparation for a license, the PDL Course employs the same methods and materials[1] that support the Safe Performance Curriculum (SPC). The major differences between the two courses are the time allocated for instruction and the amount of safety content covered.

In Unit 1, classroom instruction in both courses centers on orientation to the course. In Unit 2, the first range lesson, "Introduction—Basic Control," is the same for both courses. In the second range lesson, PDL students receive instruction in turns and two-way traffic, while SPC students receive instruction in turns, serpentine, and lane changes. The third range lesson for the PDL course covers backing and parallel parking; in the SPC, the third range lesson covers following, lane positioning, and gap discrimination. (SPC students do not receive instruction in backing and parallel parking until the sixth range lesson.) A range test in basic control tasks is administered to students in both courses in the fourth range session.

The basic difference between the two courses is in Unit 3 classroom sessions. where instruction in the PDL course centers on information provided in the State Drivers Manual (e.g., rules of the road). The primary objective here is to prepare PDL students for the driver license test. In the SPC, the primary concern is to enable students to be "safe" drivers. Although content related to obtaining a license is also presented in the SPC, the emphasis here is on the safe driving procedures required for responding to a

[1] PDL students receive two of the twenty-one Learning Activities Packages (LAPS) which support the Safe Performance Curriculum. These are LAPS 2-1 and 2-2.

SAFE PERFORMANCE CURRICULUM OUTLINE

Unit 1 Introduction

In-Processing

Overview of Content and Schedule

Introduction to Materials

Student Responsibilities

Assessment of Student Capabilities

Unit 2 Basic Control Tasks

***2-1 Control of the Car**
- Preoperative Procedures
- Longitudinal Control
- Lateral Control

2-2 Simple Maneuvers
- Backing
- Turnabouts
- Parking

Unit 3 Normal Driving

3-1 Observing
- Scanning
- Situational Observations

3-2 Communicating
- Changes in Direction
- Changes in Speed
- Presence

3-3 Adjusting Speed
- Adjusting to Traffic Flow
- Adjusting to Roadway
- Adjusting to Conditions

3-4 Positioning
- Space Cushion
- Compromise and Separating Risks
- Right-of-Way Courtesy

Unit 4 Environmental Factors

4-1 Limited Traction
- Responding to Limited Traction Conditions

4-2 Limited Visibility
- Improving Visibility
- Compensating for Limited Visibility

4-3 Night Driving
- Improving Ability to See During Darkness
- Compensating for Inability to See
- Headlight Failure

4-4 Car/Driver Stressors
- Car Stressors
- Driver Stressors

Unit 5 Complex Perceptual Skills

5-1 Distance/Time Perception
- Following/Overtaking
- Gap While Stationary
- Gap While Moving
- Passing Distance
- Stopping Distance

5-2 Hazard Perception
- Evaluating Criticality
- Responding to Hazards

Unit 6 Driver Influences

Physical Condition

Emotional Condition

Alcohol and Drugs

Unit 7 Emergency Skills

7-1 Evasive Maneuvers
- Selecting Maneuvers
- Controlling the Car

7-2 Skid Control

7-3 Car Emergencies

Unit 8 Non-Operational Tasks

8-1 Breakdowns and Accidents

8-2 Maintenance and Servicing

8-3 Trip Planning

8-4 System Improvement

*Hyphenated numbers represent modules within the unit.

TIME SPENT IN INSTRUCTIONAL MODES, BY CURRICULUM UNITS

Safe Performance Curriculum

Curriculum Units \ Instructional Modes	Classroom	Simulator	Range	On-Street
1 Introduction	3*	–	–	–
2 Basic Control Tasks	2	2	4+	–
3 Normal Driving	5	2	4	2
4 Environmental Factors	3	1	1	–
5 Complex Percep. Skills	7	1	1	3
6 Driver Influences	4	–	–	–
7 Emergency Skills	2	1	4+	1
8 Non-operational Tasks	5	–	–	1**
	31	6	14	7

(Note: The student also spends 18 - 20 periods in Guided Learning sessions and one period on-street for "open practice.")

Pre-Driver Licensing Course

1 Introduction	1	–	–	–
2 Basic Control Tasks	1	2	4+	–
3 Normal Driving	6	–	–	2
	8	2	4	2

(Note: PDL students also take the final on-road performance test.)

*Numbers show 55-minute periods.
**Represents final on-road performance test.
+Includes range test.

wide range of highway and traffic-related "tasks" (e.g., negotiating intersections, passing, merging, etc.).

The two on-street sessions in Unit 3 are the same for both courses, as are the two simulator sessions in Unit 2. The Course Pre-Post Knowledge Test, the On-Road Performance Test, and knowledge tests for LAPS 2-1 and 2-2 were administered to students in both courses. In the pilot implementation, PDL students also received the Attitude Test and the Perceptual Skills Test, although they had not received instruction in these areas. Test results were used primarily for comparison purposes with students in the SPC. (Tests are discussed in more detail in the "Evaluation Measures" section of this report.)

SAFE PERFORMANCE CURRICULUM CONTENT SUMMARY

Detailed instructions for the conduct of each lesson in the Safe Performance Curriculum are provided in the Instructor Guidance Packages which accompany this report. An appendix follows the Instructor Guidance package for each unit of instruction. This appendix contains (1) a list of instructional objectives, and (2) those materials required to support instruction which were generated within the project. These materials include student handouts for classroom exercises, written tests and answers for each unit, and miscellaneous additional items needed to allow instructors and students to carry out the activities described in the guidance package.

The instructional objectives include the following:

Performance Objectives—those behaviors students are to be capable of performing on the basis of Unit Instruction.

Mediator Objectives—objectives dealing with those characteristics which mediate between instruction and performances. Mediator objectives include the following:

Enabling knowledges—those knowledges that enable the student to meet performance objectives (i.e., the procedures for carrying out activities described under the performance objectives).

Motivating knowledges—those knowledges that play a part in motivating the student to meet performance objectives (e.g., accident statistics and relationships, driver and vehicle characteristics, etc.).

Skill objectives—a description of the perceptual and manipulative abilities that are required, over and above knowledge, and attainable through practice, in order to meet performance objectives.

Affective objectives—a description of the beliefs, values, and feelings that are believed to enhance attainment of objectives.

This section provides a brief overview of the lessons (classroom, simulator, range and on-street) which comprise each of the units.

UNIT 1 INTRODUCTION

The introductory unit consists of a single module covering the following: (1) registration of students; (2) explanation of course content and scheduling; (3) introduction to course materials; (4) identification of student responsibilities; and (5) determination of student capabilities.

Instruction for Unit 1 takes place through a Learning Activities Package (independent study) and three classroom sessions.

The Learning Activities Package describes the purposes of driver education, the functions and interrelationships among each instructional mode, and the eight

instructional units which make up the curriculum. In addition to descriptive material, the LAP includes a student progress chart, a student exercise, and a self test.

The three class sessions complete the Unit. The first session (SC1)[1] is concerned with student in-processing, the second (SC2) involves administration of the course knowledge pretest (see "Evaluation Measures" section of this report), and the third session (SC3) involves a general review of material covered in the LAP.

UNIT 2 BASIC CONTROL SKILLS

Basic Control Skills consists of two modules: Module 2-1, Control of the Car; and Module 2-2, Simple Maneuvers.

Module 2-1 Control of the Car

Objectives of this module include the following: (1) preoperative checks; (2) starting the car; (3) longitudinal control (accelerating, slowing, stopping); (4) lateral control (directional control and turns); (5) securing the car; and (6) preparing for range instruction. A Learning Activities Package (LAP) for Module 2-1 provides information and exercises relating to each of the above objectives. In addition to the informational materials, there are three student exercises designed to provide familiarity with vehicle control and to provide limited practice in preoperative and operative procedures.

Two classroom, two simulator, three range sessions, and a range test complete the module.

The first classroom session (SC4) for this module consists primarily of a knowledge test on LAP 2-1 and an exercise designed to have students apply the information learned in the LAP. The second classroom session (SC5) provides a detailed explanation of range activities for this module, including a description of the range rules and regulations, since this will be the students' first exposure to the range.

The first simulator session (SS1) provides limited practice in starting and longitudinal control of the vehicle. No films are required for this activity. The second simulator session (SS2) provides practice in lateral control as well as coordinated lateral and longitudinal control. A fifteen minute simulator film, generated from several AEtna and Allstate Films, is used to create the necessary control tasks. Essential characteristics of this film are described in the Appendix to Unit 2, SPC Instructor Guidance Package, which accompanies this report.

The first two range sessions parallel the simulator session. The first range session (SR1) provides practice in preoperative checks, vehicle starting, and longitudinal control. The second range session (SR2) provides practice in lateral control, coordination of lateral and longitudinal control for very simple maneuvers. Although not specifically related to Module 2-1 objectives, the third range session (SR3) provides practice in following, lane positioning, and gap discrimination. The primary purpose of this session is to prepare students for on-street instruction.

[1]CODING SYSTEM KEY. Each lesson in the Safe Performance Curriculum and the Pre-Driver Licensing Course has a code number. The code is used primarily for the convenience of instructors and course administrators, and does not appear on student materials. The coding system key is as follows: (1) The first letter in the code — "S" or "P" — designates Safe Performance Curriculum or Pre-Driver Licensing Course; (2) the second letter in the code (either "C," "S," "R," or "O") designates one of the following: Classroom; Simulator; Range; or On-Street; (3) the third item in the code is a number, designating the numerical placement of the lesson in the course. Thus, SC1 would be the first class session in the Safe Performance Curriculum; PO2 would be the second on-street session in the Pre-Driver Licensing Course; and so forth.

A performance test of basic control skill (SR4) is provided to assess student attainment of performance objectives for Module 2-1. The basic control skills range test constitutes one of the intermediate criteria for evaluation of the Safe Performance Curriculum and is explained in the "Evaluation Measures" section of this report.

Module 2-2 Simple Maneuvers

The objectives of this module are as follows: (1) backing the car (backing straight, and turning left and right); (2) turnabouts (U-turns, three-point turns, and two-point turns); (3) parking (selection of parking places, parallel parking, angle parking, perpendicular parking; and securing the car).

The LAP informational materials for Module 2-2 provide narrative and pictorial descriptions of procedures related to the above objectives.

Range activities for this module do not take place until students have had range practice in normal driving procedures (Unit 3). Practice in procedures related to normal driving was given priority over practice in Module 2-2 maneuvers (backing, parking, U-turns, etc.), in order that students would be adequately prepared for on-street instruction during Unit 3. Students are not tested on Module 2-2 until the fifteenth class session—immediately prior to range experience in this module. Backing and parallel parking are covered in the sixth range session for the course (SR6), and angle parking and turnabouts are covered in the ninth (SR9).

Guided Learning sessions[1] in which students manipulate written materials, slides, films, etc., are provided for Unit 2 as they are for most of the other units. The only Guided Learning session which calls for something other than working with available course materials on an individual or group basis occurs during Unit 2. It involves assignment of long-range projects dealing with the subject matter of Unit 8, Nonoperational Tasks. (Instructor guidance for this session may be found in the Appendix to Unit 2, Instructor Guidance Package, which accompanies this report.)

UNIT 3 NORMAL DRIVING

Unit 3 is the largest single unit of the course. It encompasses a broad range of procedural information governing day-to-day driving.

In approach, Unit 3 departs somewhat from the general one-to-one relationship between instructional material on the one hand, and the exercises, classroom and lab sessions on the other which prevails in other instructional units. The instructional materials (LAPS) for this unit approach the large volume of normal driving procedures in terms of a limited number of basic principles. These principles are grouped under the headings "observing," "communicating," "adjusting speed," and "positioning." The class and lab sessions require students to *apply* these principles to highway situations of increasing complexity.

[1] As explained in "General Instructional Approach," Guided Learning sessions may occur in any sequence throughout the course. Their primary purpose is to "individualize" instruction by defining and remediating student learning problems. By mid-course, some students may still be having problems with procedures dealt with in Unit 2. Other students may be progressing rapidly and therefore may start work on a later unit. For this reason, no attempt is made to correlate the number of Guided Learning sessions provided for any particular unit. For Guided Learning sessions which occur during Units 2 and 3 (See Appendix F, Master Schedule, Days 5, 6, 10 and 11), it is suggested that instructors ensure that students understand the information presented in the LAPS for those units.

The Learning Activities Package provides four sets of module informational materials as follows:

Observing—covers (1) general scanning procedures, (2) what to look for, and (3) where to make specific observations.

Communicating—includes (1) communicating changes in direction, (2) communicating changes in speed, (3) communicating presence.

Adjusting speed—includes (1) operating at a safe speed, (2) adjusting speed to traffic flow, (3) adjusting speed to roadway configurations, and (4) adjusting speed to surrounding conditions.

Positioning—includes (1) maintaining a space cushion, (2) compromising and separating risks, (3) yielding right of way to others, (4) judging space requirements, and (5) yielding space as a courtesy.

The informational materials are accompanied by student exercises covering the content of all four modules and requiring students to apply principles to a variety of highway situations.

Five classroom, two simulator, four range, and two on-street sessions complete instruction for Unit 3.

The first classroom session (SC6) involves a series of classroom exercises designed to assess the student's understanding of the four normal driving principles covered in the instructional material.

The second classroom session (SC7) involves the identification of those principles that manifest themselves in traffic laws and ordinances. The State driving manual is used as a basis of discussion. The object of the session is to prepare a student for license examinations as required to obtain a learner's permit and driver's license.[1]

The third classroom session (SC8) involves the application of normal driving principles, as well as traffic laws and ordinances, to a variety of highway situations. For initial simplicity, these situations focus upon the highway itself, independent of complicating traffic.

The fourth classroom session (SC9) is a continuation of the previous session and extends the situations to those involving interaction with other road users.

The final classroom session (SC10) includes a knowledge test administered to determine whether students know how to apply principles to driving situations. This is followed by a series of exercises in which students demonstrate the ability to deal with most complex traffic situations (e.g., freeway access).

The first simulator session in Unit 3 (SS3) is a simulator exercise involving situations calling for the application of the principles of "separate" and "compromise" to normal driving. In the second simulator session (SS4), students apply the four Unit 3 principles to city, highway, and expressway situations.

There are four range exercises in Unit 3. The purpose of the first (SR5) is to improve precision in perceptual and judgmental skills for basic control, simple maneuvers, and normal driving tasks. The second session (SR6) covers backing and parallel parking (Module 2-2). The last two range exercises involve practice in performing passing and merging maneuvers.

Two on-street sessions are provided in Unit 3. The first (SO1) involves student application of normal driving principles to various roadway situations, with the influence

[1] Preparation for acquisition of a learner's permit occurs in Unit 3 to allow eligible students to obtain the permit and drive with parents. This sequence was maintained in the Safe Performance Curriculum even though most of the students were ineligible for a learner's permit under Missouri law which allows those under 16 to drive only with a certified Driver Education teacher.

of traffic held to a minimum. The second session (SO2) involves the application of principles for interacting with both roadway patterns and other road users.

UNIT 4 ENVIRONMENTAL FACTORS

The objective of Unit 4 is to enable students to apply the procedures for normal driving under conditions in which the driving environment is degraded by limitations in traction, visibility, illumination (night driving) or a variety of other factors affecting the car and the driver. This unit consists of four modules. Objectives for each module are described below.

Module 4-1 Limited Traction

1. How to maintain good traction on wet, snowy, or icy roadways.
2. How to deal with limited traction including starting, accelerating, braking, turning; use of snow tires and chains, getting out of snow drifts.
3. How to avoid hydroplaning including recognizing hydroplaning conditions and adjusting speed.

Module 4-2 Limited Visibility

1. Causes of limited visibility including rain, snow, fog, sleet, hail, sun.
2. Effects of limited visibility upon driving safety.
3. Coping with limited visibility including methods of improving visibility and adjusting driving to visibility limitations.

Module 4-3 Night Driving

1. Preparing for night driving.
2. Improving the ability to see at night.
3. Adjusting for lack of visibility at night.
4. Aids to night driving.
5. Rural and city driving at night.
6. Nighttime emergencies.

Module 4-4 Car and Driver Factors

1. Effects of extreme weather conditions including heat, cold, water, and wind.
2. Effect of auxiliary equipment and heavy loads.
3. Effect of physical and mental factors including fatigue, boredom, noise, and distractions.

Learning Activities Packages are provided for each of the four modules, and there are three classroom sessions in Unit 4. The first session (SC11) includes a multimedia presentation calling for a review of Unit 4 instructional content. The second session (SC12) involves exercises and small group discussions of how to drive safely under conditions of limited traction or visibility, or when stresses are placed upon car and driver. The final classroom session (SC13) includes a slide exercise and classroom discussion of night driving, as well as a knowledge test on Unit 4 content.

There are no simulator sessions for Unit 4, since this form of instruction was accorded relatively low priority in meeting the objectives of Unit 4 instruction.

One night session* is provided on the range. Range exercises are provided in which students learn to judge overtaking, following, passing, and merging distances under nighttime conditions as well as learning to react to headlight glare and loss of headlight illumination.

On-street instruction in Unit 4 is accommodated by scheduling on-street instruction regardless of weather conditions.

UNIT 5 COMPLEX PERCEPTUAL SKILLS

Unit 5 begins what might be called the "advanced" phase of the Safe Performance Curriculum. It consists of two modules: Module 5-1, Distance/Time Discrimination, and Module 5-2, Hazard Perception.

Module 5-1 Distance/Time Discrimination

The objective of this module is to develop the student's ability to judge directly and accurately, under a variety of environmental conditions, the following time/distance relationships:

- Gaps for entering, crossing, and merging with traffic
- Overtaking and following distance
- Passing distance
- Stopping distance

The Learning Activities Package presents displays depicting both adequate and inadequate time/distance relationships as well as information required in sharpening perceptual skills.

Two classroom sessions are provided for Module 5-1. The first session (SC14) involves a review of instructional materials as well as a classroom exercise in detecting safe and unsafe following distances, using 16mm film. The second classroom session (SC15) involves additional exercises, using static visual projections, in dealing with gap acceptance and passing distance as well as preparation for range sessions in backing and parallel parking (Module 2-2).

Two on-street sessions (SO3 and [illegible] are provided for Module 5-1. In these sessions, students gain practice in judging stopping, following, overtaking, and passing distances as well as judging traffic gaps associated with intersection and ramp merges.

Module 5-2 Hazard Perception

The objective of this module is to develop the student's ability to anticipate potential hazards arising out of patterns of vehicular and pedestrian traffic. The student is taught to recognize—by the characteristics, actions, and situations of others—cues which indicate they are (1) unable to perceive other drivers, (2) distracted or confused, (3) lack adequate control over their vehicles, or (4) likely to be forced into a traffic conflict.

A Learning Activities Package provides the student with a means for determining the criticality of a potential hazard.[1] It also provides examples of cues related to each

*This activity was not conducted in the Kansas City pilot program because of scheduling restrictions. However, the range lesson itself is included in the Instructor Guidance Package for Unit 4.

[1] Based upon materials prepared by the Driver Education Section of the Maryland State Department of Education, Project No. DE 18-72-4-1, under a grant from the Division of Transportation Safety, Maryland Department of Transportation, and the NHTSA, U.S. Department of Transportation.

of the four sources of potential conflict. LAP exercises require the student to apply the information learned in the LAP. For example, one exercise is designed to structure student efforts to identify potential hazards during both school and out-of-school highway experiences.

Four classroom sessions (SC 16, 17, 18, 19) are devoted to Module 5-2. These sessions provide exercises requiring student response to hazards (both motion and static visuals are used). In the final classroom session in Unit 5 (SC20), a test on Perceptual Skills is administered (see "Evaluation Measures" section of this report).

One simulator session (SS5) is provided for Module 5-2. In this session, the film "Complex City Driving" is shown and student reactions to potential traffic conflicts are checked through (simulator) control responses.

One on-street session (SO5) is specifically allotted to hazard perception [although a later session, SO6 (Open Practice), provides additional practice in hazard perception, assuming the student has progressed this far in on-street sessions]. In SO5, students are exposed to potential hazards by operating in high density urban, suburban and freeway traffic. Commentary driving techniques are used to assess the student's recognition of potential hazards.

UNIT 6 DRIVER INFLUENCES

The objective of this single-module unit is to acquaint students with factors which influence their ability to meet the complex demands of driving. Specific instructional objectives include a knowledge of the following: (1) The abilities required for safe driving; (2) impairment of abilities by alcohol and drugs, physical limitations, including visual defects, fatigue, physical and emotional factors; and (3) steps that can be taken to control for, recognize the effect of, and compensate for each type of potential impairment.

The Learning Activities Package for this unit attempts to provide factual information concerning each of the instructional objectives. The major portion of the content is concerned with the effect of alcohol and drugs.

Four classroom sessions are provided. The first (SC21) involves a multimedia presentation (AEtna's "Psychophysical Factors") dealing with a wide range of potential impairments. The second session (SC22) involves an instructor-moderated discussion of alcohol using the GM film presentation, "The Drinking Driver." The third session (SC23) is a continuation of the group discussion, adding the topic of drugs, and using a series of "trigger" situations as departure points for the discussion. The final session (SC24) provides additional trigger topics for continued discussion involving a variety of potential impairments. There are no laboratory sessions.

UNIT 7 EMERGENCY SKILLS

The object of this unit is to enable students to deal effectively with sudden emergencies which occur behind the wheel. The term "emergency," in this case, means a danger that requires a rapid, skilled response on the part of the driver. A blowout would be an emergency; a simple flat tire would not be. The unit consists of three modules: Module 7-1, Evasive Actions; Module 7-2, Skid Control; and Module 7-3, Car Emergencies.

Instructional materials describe the procedural components of emergency skills. In LAP 7-1, driving situations requiring an emergency evasive response are presented, and students are asked how they would respond. A "Fact Sheet" which follows each

situation explains the correct response. Situations deal with the following: evasive steering, controlled braking, off-road recovery, and unavoidable collision.

The "Situation - Fact Sheet" approach is also used in LAP 7-2. Information presented in this LAP is related to causative factors, skid recovery, preventing oversteering, and tire failure. In LAP 7-3, information related to the following "car emergencies" is presented: engine stall, power steering failure, brake failure, accelerator sticking, hood flying up, and fire.

Two classroom sessions are provided in Unit 7. The first (SC25) provides an orientation to the driving range through the use of the 16mm film, "Emergency Driving Procedures," and reviews the evasive procedures to be employed in range exercises. The second (SC26) involves a multimedia presentation in which students react to a variety of filmed emergency situations.

One simulator session (SS6) provides practice in the selection of an evasive response through the use of the AEtna film, "Crash Avoidance."

Three range sessions are provided to help develop manipulative skills. The first (SR10) attempts to improve steering techniques through a series of serpentine maneuvers. The second (SR11) provides practice in evasive steering by confronting students with lane blockages. The final range session (SR12) introduces controlled braking to the evasive maneuver, using double-blocked lanes to teach students to obtain maximum braking without losing control of steering. Session SR13 is a test of the student's ability to handle the evasive maneuvers dealt with in the three previous sessions.

The on-street session (SO7) includes practice in off-road evasive and recovery maneuvers using actual highway off-road areas.

UNIT 8 NONOPERATIONAL TASKS

This unit is intended to enable students to perform those non-driving tasks that are needed to assure that car, driver, and highway system are prepared to furnish safe transportation. The unit consists of four modules: Module 8-1, Breakdowns and Accidents; Module 8-2, Maintenance and Servicing; Module 8-3, Planning for Travel, and Module 8-4, System Improvement.

A Learning Activities Package is provided for each module. LAP 8-1 includes information related to *breakdowns* (dead battery, overheated engine, and flat tire); *obtaining assistance* at the scene of an accident (signalling devices, removing car from roadway, starting the engine and obtaining repair assistance); and *accidents* (approaching the scene, assisting the injured, collecting and exchanging information, and reporting accidents).

LAP 8-2, Maintenance and Servicing, covers routine care, monthly servicing, periodic maintenance, and trouble signs. LAP 8-3, Planning for Travel, includes information related to trip preparation, preparing for emergencies, preparing for bad weather navigation, and loading the car. LAP 8-4 covers vehicle inspection, licensing and registration, insurance, police and traffic courts, and improving the highways.

Five classroom sessions are provided for Unit 8. The first session (SC27) involves a roleplaying exercise dealing with responsibilities in the case of an accident.

The second session (SC28) continues coverage of accidents, providing instruction in completing accident forms. Students also report on long-range community research projects begun at the outset of the course.

The third session (SC29) consists of roleplaying exercises in accident activities, car servicing, car purchase, and resisting unneeded repairs.

The fourth session (SC30) consists of a small-group exercise in trip planning and navigation.

The final session (SC31) includes administration of the Driving Knowledge (post) Test and concludes reports on long-range projects.

On the following pages is a syllabus for the Safe Performance Curriculum.

SAFE PERFORMANCE CURRICULUM

Syllabus

Unit	Class Room No.	No. Classes/ Unit	Lab No.	No. Lab/ Unit	Content
Introduction					
1	SC1	1/3			Course scheduling and administration
	SC2	2/3			Course overview and explanation
	SC3	3/3			Expectations Exercise No. 1, LAP 1-1
Basic Control Tasks					
2	SC4	1/2			Exercise A: Preops, lateral, longitudinal control exercise
	SC5	2/2			Presentation/Discussion of range activities
			SS1	1/2 SIM	Orientation to Sim Lab; Control Exercise
			SS2	2/2 SIM	Film: "Lateral & Longitudinal Control"
			SR1	1/3 RAN	Introduction – Basic Control
			SR2	2/3 RAN	Basic Control: Turns, Serpentine, Lane Changes
			SR3	3/3 RAN	Following, Lane Positioning, Gap Discrimination
			SR4	– RAN	Test: Basic Control Tasks
Normal Driving					
3	SC6	1/5			Overview: Unit 3 Principles
	SC7	2/5			Exercise A: Highway Cues
	SC8	3/5			Small Groups–Traffic laws discussion
	SC9	4/5			Exercise B: Traffic
	SC10	5/5			Exercise C: Entering/Leaving Exp; Passing
			SS3	1/2 SIM	Film: "Separating & Compromising Risks"
			SS4	2/2 SIM	Film: "Traffic"
			SR5	1/4 RAN	Perceptual/Judgmental Skills
			SR6	2/4 RAN	"Backing & Parallel Parking"
			SR7	3/4 RAN	Passing Maneuver, Part I
			SR8	4/4 RAN	Passing Maneuver, Part II
			SO1	1/2 STR	Observing/Responding to Highway Cues
			SO2	2/2 STR	Observing/Responding to Traffic
Environmental Factors					
4	SC11	1/3			Multimedia: "Adverse Driving Conditions"
	SC12	2/3			Small Group Discussion: Unit 4 Situations
	SC13	3/3			Exercise A: Night Driving & Small Group Discussion
			SR8a	1/1 RAN	Night Driving Range

(Continued)

SAFE PERFORMANCE CURRICULUM *(Continued)*

Syllabus

Unit	Class Room No.	No. Classes/ Unit	Lab No.	No. Lab/ Unit	Content
Complex Perceptual Skills					
5	SC14	1/7			Exercise A: Following distances
	SC15	2/7			Exercise B: Ramps; Passing
	SC16	3/7			"Perceptive Driving" film
	SC17	4/7			Exercise C: Hazard Perception
	SC18	5/7			Exercise D: Hazard Perception
	SC19	6/7			"Control" film
	SC20	7/7			Perceptual Skills Test
			SS5	1/1 SIM	Film: "Complex City Driving"
			SR9	1/1 RAN	"Angle Parking & Turnabouts"
			SO3	1/3 STR	Distance/Time (Merging, Passing, Following)
			SO4	2/3 STR	Distance/Time (Gap, Stopping)
			SO5	3/3 STR	Hazard Perception Skills
			SO6	– STR	Open Practice
Driver Influences					
6	SC21	1/4			Multimedia Presentation: "Psychophysical Factors"
	SC22	2/4			Film presentation: "The Drinking Driver"
	SC23	3/4			Small group discussion–driver influences
	SC24	4/4			Small group discussion–driver influences
Emergency Skills					
7	SC25	1/2			Film: "Emergency Procedures" and Range experiences description
	SC26	2/2			Multimedia: "Driving Emergencies"
			SS6	1/1 SIM	Film: "Crash Avoidance"
			SR10	1/3 RAN	Serpentine Exercise
			SR11	2/3 RAN	Blocked Lane
			SR12	3/3 RAN	Controlled Braking
			SR13	– RAN	Evasive Maneuvers Test
			SO7	1/1 STR	Off-Road Recovery
Non-Operational Tasks					
8	SC27	1/5			breakdowns & Accidents Roleplaying Exercise
	SC28	2/5			Accident Report Forms
	SC29	3/5			Maintenance/Servicing Roleplay
	SC30	4/5			Small Groups–Trip Planning
	SC31	5/5			Long-range projects – feedback
			SO8	1/1 TEST	On-Road Performance Test

EVALUATION MEASURES

There were a number of evaluation measures (intermediate criterion measures) used in the pilot study to compare the relative effectiveness of the Safe Performance Curriculum and the Pre-Driver Licensing Course. The comparisons provided input on the overall effectiveness of each form of instruction as well as the effectiveness of the curriculum in meeting specific instructional objectives.[1]

The intermediate measures listed below were administered to students in both the Safe Performance Curriculum and the Pre-Driver Licensing Course. (The Evasive Range Test and knowledge tests for Units 3, 4, 6, 7 and 8 were administered only to students in the Safe Performance Curriculum.)

- Pre/Post Driving Knowledge Test
- Unit Knowledge Tests
- Basic Skills Range Test
- Perceptual Skills Test
- Evasive Range Test
- On-Road Performance Test
- Attitude Test

PRE/POST DRIVING KNOWLEDGE TEST

The pre/post knowledge test is a 50-item test of driving knowledge that was developed from the enabling knowledge objectives covering the entire Safe Performance Curriculum. The function of this test is to permit assessment of overall student attainment of curriculum objectives which, in turn, helps to determine the general effectiveness of the curriculum and to identify specific deficiencies in curriculum requirements and course materials.

The Pre-Test was administered to both PDL and SPC students during Unit 1 instruction--before students had any contact with the actual driving content covered in the course. The Post-Test was administered on the last day of classroom instruction for each course.

On the basis of data obtained from the Spring administration of the Pre/Post Test, some of the items were revised. (The revised test appears in Appendix A, along with test administration guidelines and scoring procedures.)

The following information is also presented in Appendix A for each item on the Pre/Post Test: (a) the number of the LAP which contains the information the item is intended to measure; (b) the criticality rating of the related driver task (HC - High Criticality; MHC - Moderately High Criticality; MC - Moderate Criticality; MLC - Moderately Low Criticality); and (c) the original source of the item (DETA: IO)—from the Driving Knowledge Test of the *Driver Education Task Analysis: Instructional Objectives*[2]; (HSRI)—from the *Driver Knowledge Test Item Pool*[3] developed by the Highway Safety Research Institute; or (NEW)—generated item.

[1] Test results are provided in the report, "Safe Performance Curriculum for Secondary School Driver and Traffic Safety Education: Phase II - Technical Findings," prepared by HumRRO under this contract (DOT-HS-003-2-427). A summary of the conclusions and recommendations made in the Technical Report is provided at the end of this section (page 31), "Status of Intermediate Criterion Measures."

[2] McKnight, A.J. and Hundt, A.G., *Driver Education Task Analysis Volume IV: The Development of Instructional Objectives.* Human Resources Research Organization, Alexandria, Virginia, March 1971.

[3] Berger, W.G., et al., *A Handbook for Driver License Knowledge Tests. Part II: Test Item Pool.* Highway Safety Research Institute, University of Michigan, October 1971.

UNIT KNOWLEDGE TESTS

In the first pilot test implementation (Summer, 1973), SPC students were tested on a module (or LAP) basis. (PDL students receive only two of the LAP tests—LAPS 2-1 and 2-2.) SPC students, then, received 19 tests throughout the course, in addition to the other intermediate criterion measures. It was decided, therefore, to reduce the amount of testing by designing "unit" tests,[1] which would measure student attainment of the moderate to high-criticality objectives within each unit. The unit tests are administered as post-tests to each unit, that is, after the student has received classroom instruction (which includes clarification of material presented in the LAPS) for each unit.

On the basis of data obtained from the Spring, 1974 administration of the knowledge tests, some of the items were revised. The revised knowledge tests are included in the Appendix to each unit of the Instructor Guidance Packages which accompany this report. Test administration guidelines and scoring procedures for the unit knowledge tests appear in Appendix B of this report.

BASIC SKILLS RANGE TEST

The Basic Skills Range Test (provided in the Instructor Guidance Package for Unit 2, SR4) is administered as a measure of basic control skill not because basic control skill by itself is highly critical to vehicle safety, but because it underlies the development of other critical skills. The tasks which are measured in this particular test are basically an outcome of those tasks covered in the first three range lessons of the course. Specific instructions for the methods employed and the range layouts for this test, therefore, may be found in range lessons SR1, SR2, and SR3 (provided in the Instructor Guidance Materials, Unit 2).

The test is intended to assess the following skills:

1. Acceleration—coordination of brake, accelerator and gearshift involved in moving the car forward.
2. Tracking—the ability to maintain a straight path.
3. Turning—the ability to coordinate speed and steering to follow a specified path.
4. Speed control—the ability to maintain a specified speed, with and without recourse to the speedometer.
5. Decelerating—the ability to bring the vehicle to a smooth, safe, non-disruptive stop.
6. Lane Changing—the ability to control vehicle speed and positioning.

In each of the above performances, it is primarily the perceptual-motor control "skill" that is to be assessed. The range is not used to assess knowledge that may be more readily evaluated through knowledge tests.

The basic control range test is administered after Module 2-1 classroom, simulator and range experiences. It is the student's fourth formalized exposure to the range. The test should be administered in an off-road area, under conditions in which performance is not affected by variation in roadway conditions, traffic, or general physical environment. A sample data sheet and an equipment checklist for the basic skills range test is provided in Appendix C.

[1] Students are still tested on a module (or LAP) basis in Unit 2, since the two modules within that unit are not dealt with consecutively—i.e., students are not tested on the second module in Unit 2 until later in the course, since the driving tasks covered in that module—parking, U-turns, etc.,—are practiced after the student has had on-street experience. "Unit" tests are provided for Units 3, 4, 6, 7, and 8. (The "Perceptual Skills Test" constitutes the test for Unit 5.)

PERCEPTUAL SKILLS TEST

In the Safe Performance Curriculum, the emphasis in measurement of student understanding in the perceptual skills area is not on "informational" content, but rather on the decision-making abilities needed to respond to other roadusers and to control the vehicle in complex situations. For this reason, the evaluation measure for this segment of the course is provided through "moving", real-world traffic scenes.

The Perceptual Skills Test film (16mm) portrays ten situations requiring (1) a judgment of the distance/time needed to safely maneuver the car (e.g., in passing, crossing an intersection, etc.) in complex situations; or (2) a response to subtle hazards presented in the film.

Students respond to the situations by checking an answer sheet "safe" or "unsafe" (e.g., to pass), based upon their perception of the traffic scene portrayed.

The test itself is presented in the Unit 5 Instructor Guidance Package (SC20). It represents a sampling of the high-criticality objectives for Unit 5, "Complex Perceptual Skills". The Perceptual Skills Test is administered in the last classroom session of Unit 5. In order to determine the magnitude of course content acquisition, the test should also be administered prior to course exposure.

EVASIVE RANGE TEST

In addition to its use in assessment of basic control skills, a driving range is also used to assess skill in dealing with emergency situations which do not occur frequently enough in normal driving and are too hazardous to stage on the public highway.

Test administration guidelines for the evasive range test are provided in the Unit 7 Instructor Guidance Package (SR13). The test is confined to assessment of those emergency skills that are included among the instructional objectives for the Safe Performance Curriculum. This restriction is not only logical but is a practical necessity since both development and assessment of emergency skills is limited by the same factor, that is, the availability of adequate facilities. (*Knowledge* of emergency procedures is assessed through a knowledge test—Unit 7.)

The primary source of information for the development of the Evasive Range Test was the *General Motors Advanced Driver Education Course Training Manual*, GM Proving Ground, 1971. This document was also used in the development of the range lessons which precede the evasive test. The GM maneuvers were refined and modified to a considerable extent, based upon the restrictions imposed by the range facilities available at the pilot test site. Specific methods and specifications for range layouts for the evasive range test are provided in range lessons SR10, SR11, and SR12 (included in the SPC Instructor Guidance Packages, Unit 7).

Maneuvers for the Evasive Range Test include: (1) a serpentine course; (2) blocked lane; and (3) controlled braking and steering. Each student driver is scored twice on each maneuver. Off-road recovery is dealt with in an on-street lesson (in a low-volume traffic area). The purpose of conducting this maneuver on-street is to improve the student's confidence in his ability to perform emergency maneuvers in a real-world operating environment.

ON-ROAD PERFORMANCE TEST (ORPT)

The purpose of the On-Road Performance Test is to assess the student knowledges, perceptual skills, and habits underlying the performance of relatively

normal driving tasks. The test is designed primarily to assess student attainment of objectives relative to the Safe Performance Curriculum, in particular the objectives of Unit 3, "Normal Driving" and Unit 5, "Complex Perceptual Skills". To the extent that performances are observed under conditions of adverse weather conditions, the test will also assess the objectives of Modules 4-1, "Limited Traction" and 4-2, "Limited Visibility".

The On-Road Performance Test was administered upon course completion to students in both the Safe Performance Curriculum and the Pre-Driver Licensing Course.

The On-Road Performance Test represents a set of structured observations of student performance, the primary value revealing specific driver strengths and weaknesses. An overall "score", if one is desired, would be the proportion of situations successfully handled, that is: Correct responses ÷ (correct responses + incorrect responses).

Administration of the On-Road Performance Test involves directing the driver over the specified route and recording his responses. Once the route—or that segment of it that a student is to navigate—has been completed, the administrator records the driver's responses to unprogrammed situations as well as the administrator's own general evaluation.

The administrator must not provide instructions other than those required for administration of the test. An explanation of the objectives of the test and of the administrator's role in fulfilling them is provided in the "On-Road Performance Test Administrator's Guide," Appendix D.

ATTITUDE MEASURE

A valid assessment of attitudes in an educational situation—where grades are at stake—may be difficult to obtain. The student is more likely to describe the belief he thinks the instructor is looking for than the one he holds. As a result, an "attitude measure" may be in reality a measure of social perceptiveness, verbal intelligence, technical sophistication, or some other unknown commodity.

In the educational setting, attitude solicitations frequently attempt to recover candor by assuring the student that the results "won't affect your grade." Some students probably accept these assurances and respond frankly; others probably remain skeptical and disguise their true beliefs. What happens in the main is simply a mystery.

One strategy in disguising the purpose of attitude tests is through the use of a pseudo-knowledge item. In this case, the concern is to disguise the fact that attitudes are at stake. This requires that the respondent interpret the item on the basis of some non-attitudinal determinant such as logical reasoning, knowledge or information. To the extent that the test contains elements of reasoning and knowledge, then the attitudinal component is correspondingly reduced. Therefore, it is extremely important to employ techniques which aid in concealing the intended purpose of the item.

There are several techniques for generating pseudo-knowledge items as outlined below:

- Incorrect answers—present a factual question but provide answers that are all approximately equally incorrect. This "forced error" type of item was one of the earlier applications of the pseudo-knowledge approach.
- Unknown answer—ask a factual question to which the correct answer is unknown, at least to the student.
- Ambiguous question—word the question so vaguely that no one could answer it correctly.
- Incomplete question—the question simply doesn't provide enough information to permit a correct answer.

The above approaches were used in developing items for the attitude measure, or pseudo-knowledge test which was used in the pilot test. A set of 20 pseudo-knowledge items was generated out of instructional content drawn from all phases of the curriculum. Each item presents a lead phrase followed by three alternative answers. Each answer is worded so as to reflect what appears to be different value judgments concerning issues of concern to safety.

Consider the following example:

1. Pulling away quickly:
   a. Is a waste of gas
   b. Can sometimes cause an accident
   c. Is a sign of an unsafe driver

It's not unreasonable to think that someone who considers pulling away quickly is simply a waste of gas does not believe the activity to be particularly unsafe. Someone who considers it to be "a sign of an unsafe driver" would seem to consider the practice quite unsafe. Someone who believes it "sometimes causes an accident" seems to fall somewhere in between. None of the answers could be considered factually "correct". The relationship of the answers to safety is of course hypothetical; but then all measures start as hypotheses.

The complete set of 20 items constituting the preliminary form of the pseudo-knowledge test, referred to as the "General Driving Knowledge Test," and the subsequent revisions to the items appear in the report, "Safe Performance Curriculum for Secondary School Driver and Traffic Safety Education: Phase II—Technical Findings."

The final form of the "General Driving Knowledge Test" appears in Appendix E, along with test administration guidelines. The test presented there includes 25 items selected from the well-known Mann Inventory. (These were included in an attempt to provide attitudinal data from more traditional approaches.) The 45-item test was administered in Pre/Post form to students in both the Safe Performance Curriculum and the Pre-Driver Licensing Course in the Kansas City pilot test. (The pre-test should be administered prior to course exposure, and the post-test following course exposure.)

STATUS OF INTERMEDIATE CRITERION MEASURES

Based upon data obtained in the pilot test administration of the intermediate criterion measures, a number of recommendations were made regarding the tests.[1] These recommendations are summarized below:

> In regard to all tests administered, the primary question is the validity of the test, i.e., do any of the measures relate to real world driving performance? This, of course, requires long-term follow-up procedures, i.e., tracing the student's violation and accident records.
>
> Overall low content acquisition scores were obtained on the knowledge tests administered in the pilot. This may be attributable to an over-reliance on independent study, rather than to the difficulty level of the tests. In addition, inadequate presentation of course content by instructors may have contributed to the low content acquisition scores. Support for this position is

[1] Conclusions and recommendations are documented in the report, "Safe Performance Curriculum for Secondary School Driver and Traffic Safety Education: Phase II - Technical Findings," prepared by HumRRO under Contract DOT-HS-003-2-427.

found in project consultant feedback. Test standardization and increased reliability are needed to more adequately assess content acquisition. In general, all Knowledge tests (the 50-item Course Pre/Post Test, and the Unit tests) have fairly high reliability and are adequate as they appear in the Instructor Guidance Packages which accompany this report.

The intermediate criterion measures appear to be sensitive to measuring program effects in regard to content/skill acquisition. However, several recommendations can be made for improvement of some of the measures:

(1) Format and test administration procedures could be improved on the on-road performance test.

(2) Scoring and rating procedures on the performance/skill tests could be refined through additional pilot testing to improve inter-rater reliability and internal consistency. All performance/skill tests (on-road and range) require extensive instructor training.

(3) Perceptual skills test requires major revision or substitution of a different test. The current "test" could be used more effectively in a training mode.

(4) Major work is needed on the attitude measure, which requires validation to determine which attitudes are related to safe driving practices.

In conclusion, it was the opinion of the researchers that the knowledge and unit tests are at a sufficient stage of refinement for use in a research or operational program. However, continued efforts should be made to improve the tests by conducting reliability checks and making appropriate revisions. On the other hand, much more effort is required to bring performance measures up to an adequate level. The conduct of in-car instruction is much more expensive than classroom instruction. Therefore, it seems that the more effective and efficient training and testing techniques should be developed in this area. The difficulty in developing highly reliable tests lies in the subjective judgment required of instructors. Although other observational methods are available (e.g., video tape), they are expensive to conduct. The instructor(s) will most likely continue to be the major source of data. The development of highly reliable data is both a function of the testing format/definition of behavior as well as the amount of instructor training. Regardless of the refinement of the "paper" procedures and instructions, high reliability estimates are dependent upon experience and interaction of the instructors to develop common behavioral observations.

SCHEDULING REQUIREMENTS

The Master Course Schedule provided in Appendix F shows, by day, the student scheduling requirements and the instructor requirement for each lesson within the Safe Performance Curriculum and the Pre-Driver Licensing Course. The schedule key and lesson coding system explanation appear on the first page of the schedule. This schedule is based on an instructor requirement of four, and in some cases, five. (Project staffing requirements are presented in Appendix G.)

Scheduling depends to a large degree upon the requirements or restrictions imposed by the school system in which the program is being implemented. The number of instructors available also affects scheduling. For example, if only one instructor is available, students cannot be scheduled into two modes at the same time (e.g., 15 students on range and 15 students in simulator lab during the same hour).

Note on the Master Course Schedule that only students in the Safe Performance Curriculum were taught through Day 22. Students in the Pre-Driver Licensing Course were scheduled into Study Hall (or in some cases, another course which did not meet every day). If study hall monitors from the pilot test schools were not available, the project staff was responsible for monitoring students during these time slots. Project aides were usually assigned to this activity, when needed. There are times throughout the entire schedule when groups of either SPC or PDL may be assigned to Study Hall. However, whenever possible (i.e., an instructor and a classroom are available), SPC students should be scheduled into Guided Learning during open time slots.

In developing a Master Course Schedule, the following items must be taken into consideration:

(1) The most important consideration, of course, is the sequence in which instruction should occur. This information may be obtained by referring to the Master Schedule or to the Course Content Summaries and Course Syllabus for the Safe Performance Curriculum and Pre-Driver Licensing Course (pages 14 through 26).

(2) In the pilot test, each school had four instructors. Therefore, within one 55-minute period, the instructor requirement could not exceed four. In some cases (e.g., Day 23) this could not be avoided and an additional instructor was needed.

(3) The maximum number of students which could be scheduled in one period was sixty. This did not occur until Day 23, when the Pre-Driver Licensing Course began. Through Day 22, instructors dealt only with 30 SPC students. The schedule accommodated 60 students per period if the following precautions were taken:

   (a) Two groups of 30 students (i.e., 30 SPC's and 30 PDL's) were not scheduled into a classroom at the same time, since only one classroom was available at each school.

   (b) No more than 16[1] students were scheduled for range during one period (eight cars, two students per car, were scheduled for most range lessons).

   (c) No more than 16 students were scheduled for simulator lab during one period.

   (d) No more than three students per instructor were assigned to an on-street lesson during one period.

The schedule in Appendix F reflects the number of instructors needed for each lesson in the Safe Performance and Pre-Driver Licensing Courses. Whenever possible, two or more instructors were assigned to Guided Learning, in order that individual student problems could be dealt with more effectively. The more instructors available, the more options the learner has for coping with his deficiencies. For example, one instructor might take three students with performance-related problems on-street for additional practice, while the other instructor helps the remaining students with knowledge-related problems. (The use of Guided Learning sessions is described in detail in the Unit 1 Instructor Guidance Package which accompanies this report.)

[1] In most cases, 15 students (or half of the students scheduled for that period) were scheduled for range and simulation. Therefore, an open slot for one student was usually available during these modes. Guided Learning was often a complement to each of these modes—e.g., the A group for period 1 was on the range while the B group was in Guided Learning. This provided an opportunity for the Guided Learning instructor to send one student to the range for additional practice, if he deemed it necessary.

It should be noted that with the large number of students scheduled for this program, an instructor was not always instructing the same students on a day-to-day basis. With the emphasis given to individualized instruction in the Safe Performance Curriculum, this could have proven detrimental. To cope with the problem, progress charts (explained earlier in this report) were developed. In addition, the following priorities were set forth (based upon the number of students with which the instructor comes in contact—e.g., 30 in class versus 15 on the range; or, as is the case with Guided Learning, the opportunity for individualized instruction):

(1) The same instructor should always deal with the same 30 students in the classroom mode. That is, Instructor A always teaches class during period 1, Instructor B always teaches class during period 2, and so forth.

(2) On a day in which students are divided into two or more modes, the instructor should note the following priorities:

(a) Guided Learning
(b) Range
(c) Simulation
(d) On-Street

Therefore, if 15 students from period 1 were scheduled for Guided Learning, and the other 15 were scheduled for Range, the instructor who usually has those 30 students in class would be scheduled for Guided Learning that period; if 15 of his students were scheduled for Simulation, and the other 15 for Range, the instructor would teach Range that period, and so forth.

EQUIPMENT AND FACILITIES REQUIREMENTS[1]

TRAINING EQUIPMENT

The following equipment was provided to each of the three instructional sites:

Classroom Equipment:

Chalkboards
Slide Projector
Filmstrip Projector
Overhead Projector
Multimedia Station
Projector Screen (7')
Record Player
Film Splicer and Tape
Bulletin Board
Group Tables
Folding Chairs
Partitions
Cassette Recorders/Players

[1] In some cases, particularly with regard to classroom and office equipment, the pilot test school was able to supply some of the needed items. In other instances (i.e., with projectors, multimedia equipment, simulators, and vehicles) the items were loaned to the project by the manufacturers listed on page 36.

Office[1] Equipment:

Teacher Desk and Chair
Bookcases (2)
Student Desks and Chairs (30)

Range Equipment:

Traffic Cones (100, 27½")
"Stop" and "Yield" signs
Flags and Poles
Voice Projector
Car Numbers
Stop Watches
Measuring Tape
Rain Gear
Tire Gauges
Jumper Cables

DEVICES

The following special training devices were provided to each of the instructional sites:

Automobile Simulator (trailer-mounted), including:

Student Stations (16)
Motion Picture Projector
Master Control Console
Print-Out Unit
Screen (10')
Chalkboard
Air Conditioner and Heater
Trailer (sizes 10' x 60', 12' x 60', 12' x 64')
Bulletin Board
Operator Manuals
Flashlight Pointer
Headphones

Magnetic Traffic Board with Model Vehicles

VEHICLES

Local car dealers in the Kansas City area provided the vehicles needed for the project. The dealers also provided maintenance and servicing for the vehicles. The following vehicles were required for each instructional site:

Range Vehicles (8)

Street Vehicles (4), including:

(a) Car Top Sign
(b) Instructor Mirrors
(c) Eye Direct Mirrors

[1] Office space for the project director, curriculum administrator, and a secretary was provided by the Kansas City Board of Education.

(d) Dual Brakes
(e) Accelerator and Brake Extensions
(f) Pillows
(g) First Aid Kits

Station Wagons (4),[1] shared by all schools for shuttling purposes.

Bus (rented) for Evasive Range instruction and testing.

FACILITIES

Facilities for the three sites were as follows:

Classrooms
(30' x 40', 30' x 54', 30' x 39')

Range Areas
(See the diagrams on the following pages. Two sites used the East High School range; one used the Southeast Range.)

Evasive Range Area[2]

The figure below shows the dollar value of materials, equipment, and facilities loaned (and in some cases, donated) to the project.

DOLLAR VALUE OF MATERIALS FURNISHED TO IMPLEMENT SAFE PERFORMANCE CURRICULUM

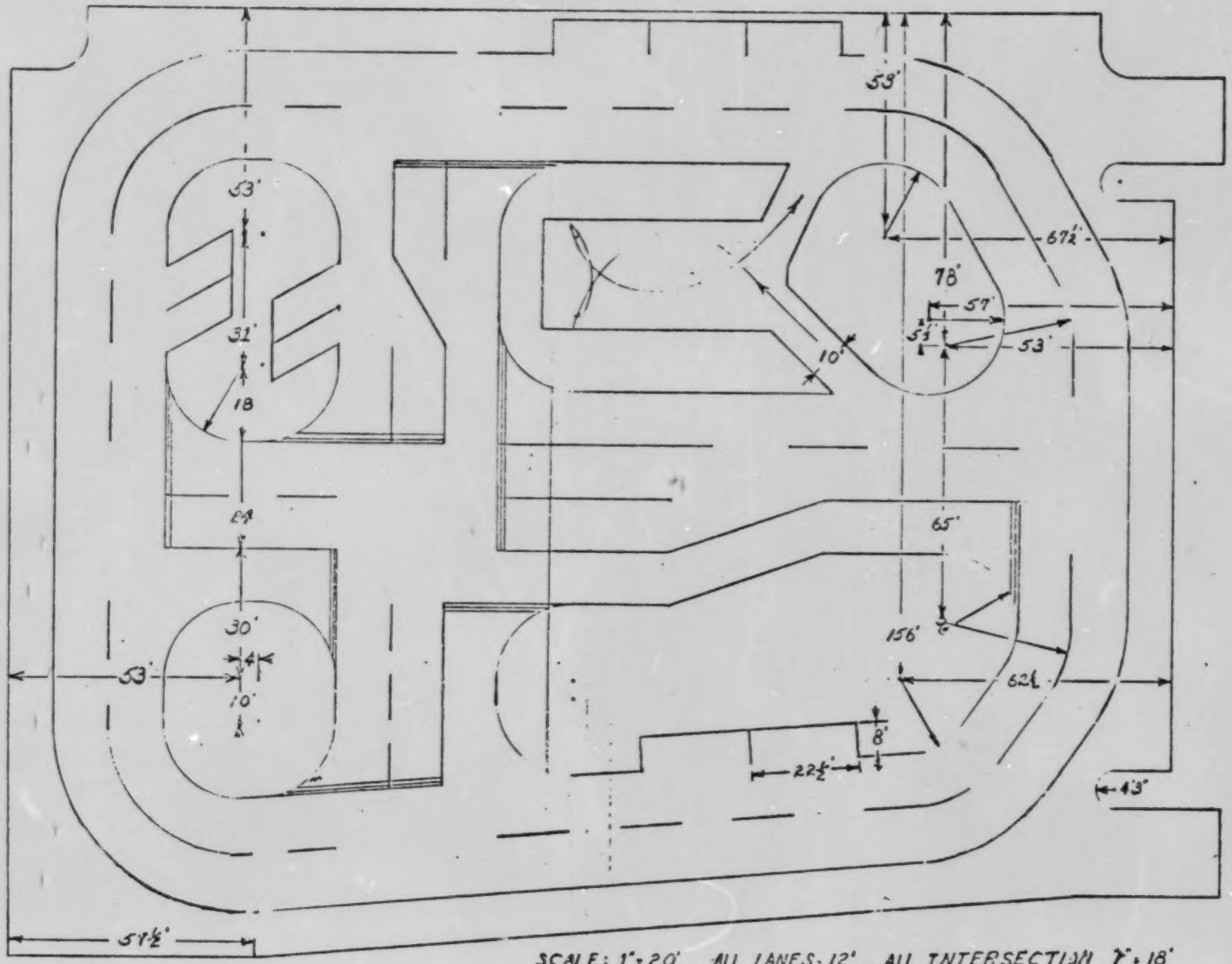
AEtna – films, filmstrips, tapes	$9,425.00
Allstate – films	2,537.00
Ford – filmstrips, records, films	638.00
Ginn & Company – student printed materials	25,000.00
Singer Simulation Systems – 2 simulators	15,000.00
Visual Educom – 1 simulator and 3 multimedia	19,640.00
	$72,250.00
Value of vehicles (36)	157,680.00
(Oldsmobile and Chevrolet dealers)	$229,930.00

The diagrams on the following two pages show the range areas which were used for the Spring, 1974 semester.

[1] A mini-bus was used for shuttling students during the Fall, 1973 school term for a $300 a month rental fee.

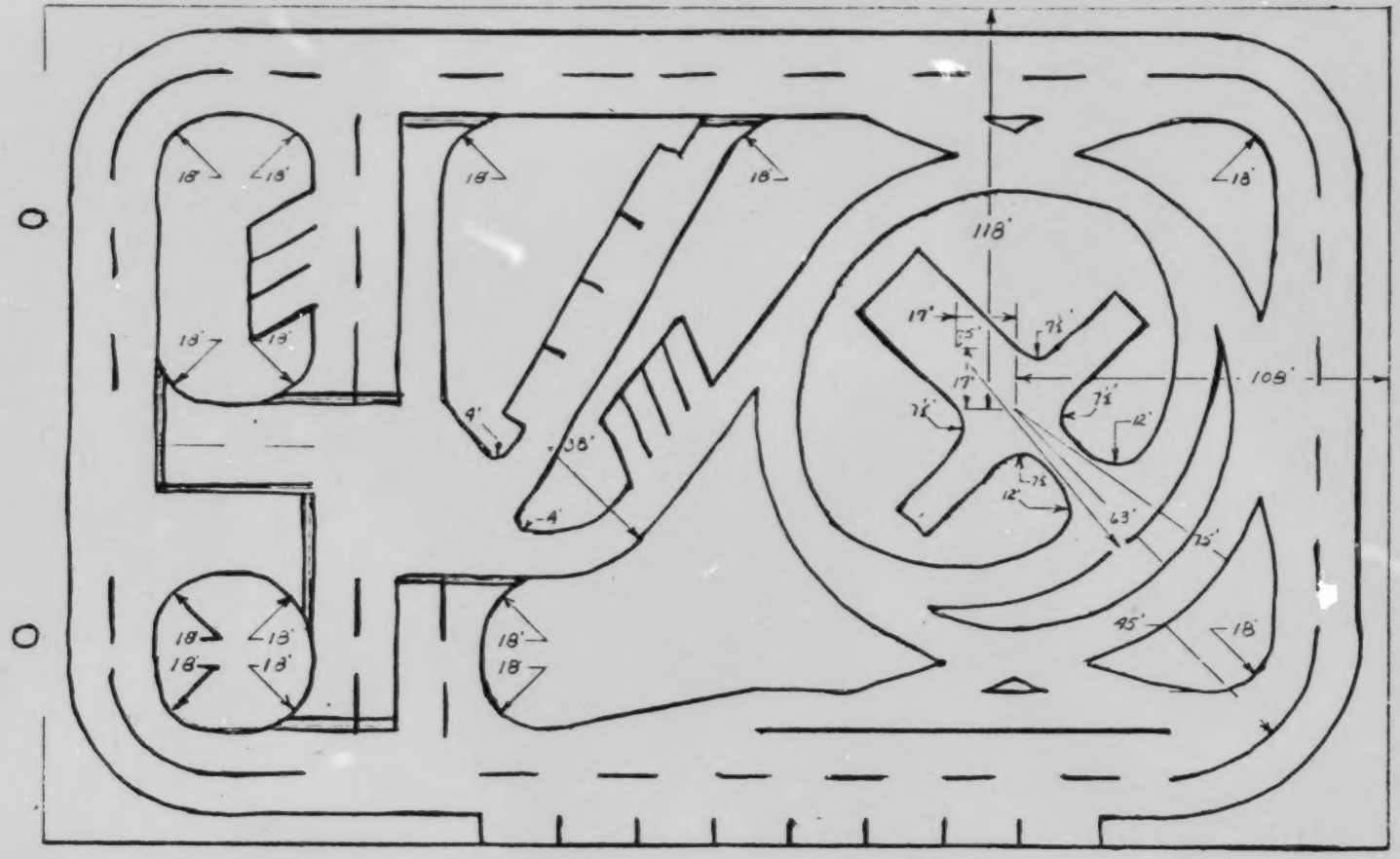
[2] A range area of at least 300' x 600'–800' is needed for the evasive range lessons and test conducted during Unit 7. Since the test site range areas did not meet these specifications, instruction and testing took place on Saturdays and students were bussed to an appropriate site.

EAST HIGH SCHOOL RANGE



SCALE: 1" = 20', ALL LANES - 12', ALL INTERSECTION 7' - 18'

SOUTHEAST HIGH SCHOOL RANGE



SCALE 1" = 30' ALL LANES 12', ALL INSIDE "I" & 18' UNLESS NOTED

INSURANCE

Insurance was carried on all vehicles and equipment used in the project. The total annual cost of insurance for the thirty-six range and street vehicles was $7,040. Coverage included: $100,000 - $300,000 bodily injury; $100,000 property damage; $2,000 medical; and $10,000 - $20,000 uninsured motorist. The policy for the vehicles had a $100 deductible clause.

Simulators and accompanying devices and equipment were also insured, with a $500 deductible clause.

RECORDKEEPING

The following records were kept throughout the project:

(1) **Gas Record,** kept by each instructor, noting date on which gas was purchased, car number and school name, mileage, and instructor initials (accompanied by gas receipt).

(2) **Accident Reports,** filed by the instructor on Missouri Accident Report Forms, which were kept in each range and street vehicle.

(3) **Project Accident Report Form,** filed by instructor responsible for student driving at the time of the accident; lists possible causes and suggestions for how the accident could have been avoided.

Appendix A

DRIVING KNOWLEDGE TEST

Test Administration Guidelines
- Pre-Test of Driving Knowledge
- Post-Test of Driving Knowledge

Driving Knowledge Test

Correct Answers

Criticality and Source Table

DRIVING KNOWLEDGE TEST

TEST ADMINISTRATION GUIDELINES

PRE-TEST OF DRIVING KNOWLEDGE

PURPOSE

The pre-test of driving knowledge is a paper and pencil test consisting of 50 multiple choice items. It is designed to measure the extent of students' driving knowledge before exposure to the course materials. The same test will be administered to the students upon completion of the course in order to assess student attainment of curriculum knowledge objectives. A comparison of the two sets of scores will provide one measure of the extent to which exposure to the course has increased driving knowledge.

TEST ADMINISTRATION

Date: The second classroom session in Unit 1

Time Required: 20-30 minutes

Materials Required: (1) One test booklet for each student

(2) One set of instructions and an answer sheet (IBM) for each student (clip this to the front of the test booklet)

(3) One #2 pencil for each student

Test Room Conditions: Those conducive to good concentration and individual work

INSTRUCTIONS TO STUDENTS

"In class today you will be taking a multiple choice test on driving knowledge. This test is to find out what you might already know about driving before beginning the driving course. The results

of this test will not affect your grade in any way. But the test scores will help us judge how effective the course is when we compare them to test scores when you have completed the course.

When you look at the test you will probably find that you don't know many of the answers. Don t worry. You aren't expected to. So just try to choose the answer that seems most correct to you.

It is important that you work individually and quietly.

I am going to hand out the test now. Please don't open the booklet until I say so. (Hand out test booklets with instructions and answer sheets clipped to the front of each, and pencils).

Detach the answer sheet from the test booklet and read the instructions carefully. (pause)

Are there any questions?

Remember - For each question, choose the ONE answer you consider MOST correct.

- Put your answers only on the answer sheet.

You have half an hour to complete the test. You may begin."

NOTE: Before collecting the test materials, ask students to ensure that their name, school and date are written on the answer sheet. The test should NOT be discussed.

SCORING

Tests are to be scored on a percentage basis. Assign two points to each correct answer. The sum of the points will represent the percentage score.

DRIVING KNOWLEDGE TEST

TEST ADMINISTRATION GUIDELINES

POST-TEST OF DRIVING KNOWLEDGE

PURPOSE

The post-test of driving knowledge is a paper and pencil test consisting of 50 multiple choice items. This is the same test which was administered to students before exposure to the course. The post-test is designed to measure student attainment of the curriculum knowledge objectives upon the completion of the entire course.

TEST ADMINISTRATION

Date:	The last day of classroom instruction
Time Required:	20 - 30 minutes
Materials Required:	(1) One test booklet for each student
	(2) One set of instructions and an answer sheet for each student (clip this to the front of the test booklet)
	(3) One #2 pencil for each student
Test Room Conditions:	Those conducive to good concentration and individual work

INSTRUCTIONS TO STUDENTS

"Today you will be taking the final knowledge test in the course. It consists of 50 questions and covers all of the units in the course. Like the previous tests, it is a multiple choice test. The results of this test will contribute to your final grade, along with the results of the Unit knowledge tests, the on-road performance test, the range tests and so on.

It is important that you work individually and quietly.

I am going to hand out the test now. Please don't open the booklet until I say so. (Hand out test booklets with instructions and answer sheets clipped to the front of each one, and pencils).

Detach the answer sheet from the test booklet and read the instructions carefully. (pause)

Are there any questions?

Remember - For each question, choose the ONE answer you consider MOST correct.

- Put your answers only on the answer sheet.

You have half an hour to complete the test. You may begin."

NOTE: Before collecting the test materials, ask students to check that their name, school, and date are written on the answer sheet. The test should NOT be discussed.

SCORING

Tests are to be scored on a percentage basis. Assign two points to each correct answer. The sum of the points will represent the percentage score.

DRIVING KNOWLEDGE TEST (PRE-TEST/POST-TEST)

INSTRUCTIONS
(To be attached to the front page of each test)

Please use the pencil provided

Take the Answer Sheet and: Where it says NAME write your name

Write the name of your SCHOOL on the answer sheet

Write today's DATE on the answer sheet

When you take the test, you should: Pick the ONE answer you think is MOST correct for each question

Fill in the blank corresponding to the correct answer ON THE ANSWER SHEET

Not write on the test itself

EXAMPLE: 1. A red traffic light means:

a) slow down
b) stop
c) go
d) turn

If you think "stop" is the correct answer, you would find the number "1" on the answer sheet and fill in the blank next to the letter "b".

1. The inside rearview mirror should be adjusted to reflect the:

   a) Center of the road behind the vehicle
   b) Left side of the road behind the vehicle
   c) Right side of the road behind the vehicle
   d) Top of the trunk

2. When backing up, it is usually best to:

   a) Open the left front door and look back
   b) Steer with one hand while looking into the rearview mirror
   c) Steer with one hand while looking out the rear window
   d) Steer with both hands while looking out of the left side window

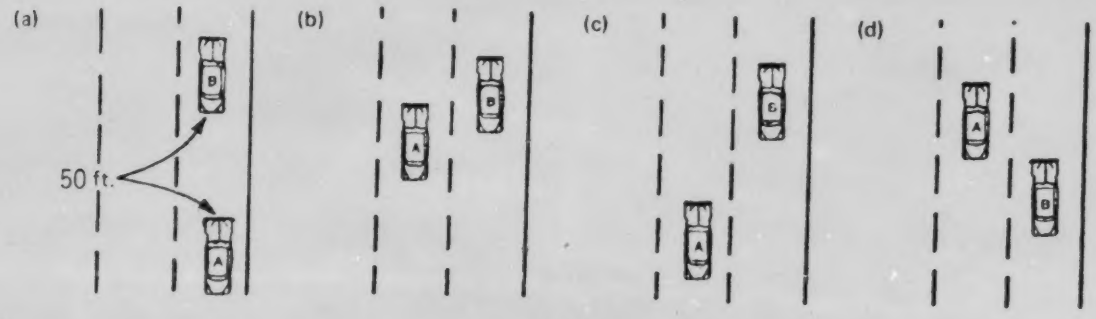
3. The shape of this sign tells you it is a:

   a) Stop sign
   b) Speed limit sign
   c) Warning sign
   d) School crossing sign

4. When you come to a railroad crossing where there are several sets of tracks you should:

   a) Wait until all the tracks are clear before you start to cross
   b) Drive quickly to cross the tracks in as little time as possible
   c) Stop and wait until a flagman signals you to cross
   d) Move part way onto the tracks and then wait for the other tracks to clear

5. As Car A prepares to pass and passes Car B, in which position is A in the greatest danger from B?



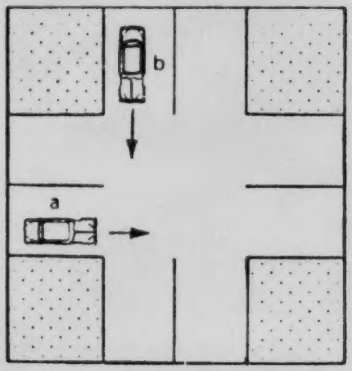
6. When you are planning to make a turn at an intersection, the best time to signal your turn, in most cases, is:

   a) As soon as you've decided to make the turn
   b) Whenever it will cause the least confusion
   c) Approximately 150 feet from the intersection
   d) When you begin to make the turn

7. In general, the safest driving speed on the roadway is:

   a) 5 mph faster than the speed of the average car
   b) 5 mph slower than the speed of the average car
   c) The average speed of the other cars as long as that speed doesn't exceed the posted limit.
   d) A speed that more or less constantly varies from the posted speed limit

8. The cars in the diagram below are approaching an intersection. There are no traffic signs or lights. Mark the letter on your answer sheet for the car that has the right-of-way.



9. A broken line painted on the center of the highway means:

   a) You may pass or change lanes
   b) Only drivers on the other side of the road may pass
   c) You may not pass
   d) Use extreme caution

10. When driving on snowy or other slippery surfaces, smooth steady acceleration:

a) Is not as important as it is on dry surfaces
b) Helps keep the rear wheels from spinning
c) Is best accomplished by starting in low gear
d) Is no easier when using snow treads

11. When driving on snow or ice, do not:

a) Look at other vehicles to see if they are skidding
b) Wait until you reach the intersection before slowing down
c) Watch out for vehicles coming out of side streets
d) Look out for children playing near the street

12. If bad weather makes it hard for you to see, you should:

a) Speed up to get off the road quickly
b) Increase your following distance
c) Drive in the lane closest to on-coming traffic
d) Turn your lights on high beam

13. You should turn on your headlights:

a) Only between dusk and dawn
b) At night and on days when it is raining
c) At night and during severe snow storms
d) In all conditions of darkness

14. Which area is likely to be the most slippery after a rainfall during freezing weather?

a) The shoulders of the road
b) The roadway over a bridge or culvert
c) Roadways in sheltered areas
d) Areas paved with asphalt rather than concrete

15. On a two lane road, you should pass only when:

a) There is enough room to return safely to your lane after the pass
b) There is a solid line to the left of your lane
c) The vehicle ahead signals you to pass
d) The vehicle ahead is going more than 15 mph below the speed limit

16. When driving in city traffic, you should:

a) Avoid using hand signals
b) Drive only in low gear
c) Expect other drivers to make quick stops
d) Leave only a small space between you and the vehicle ahead

17. Even if you feel in good condition after drinking, you should:

a) Realize that you won't be thinking as clearly as usual
b) Keep the radio on so you don't fall asleep
c) Spend more time than usual looking in the mirrors
d) Avoid using major highways

18. Prescription drugs taken in combination with alcoholic beverages:

a) Can cause trouble unless the drug was prescribed by a physician
b) Will tend to have their effects cancelled out by the effect of alcohol
c) Will cause trouble if you drink too much
d) Can produce extremely harmful effects

19. Which hand position on the steering wheel gives you the best control of the car during emergencies?

a) One hand at "10 o'clock" and one hand at "2 o'clock"
b) Both hands near the "12 o'clock" position
c) Both hands on the spokes
d) One hand at "9 o'clock" and one hand at "3 o'clock"

20. Your front wheels are most likely to skid if you:

a) Turn the wheel sharply
b) Speed up too quickly
c) Apply your brakes when backing up
d) Brake too hard

21. In order to get out of a skid, you should:

a) Keep your foot off the brake
b) Turn the front wheels toward the edge of the road
c) Let the steering wheel slip through your hands
d) Keep a constant pressure on the gas pedal

22. If your brakes fail while you are on the roadway, the first thing you should do is:

a) Keep your foot on the brake and wait until you get brake action again
b) Turn off the ignition
c) Leave the roadway
d) Pump your brakes a few times

23. If a tire begins going flat while you are driving, you should:

a) Drive quickly to the nearest service station
b) Look for a safe place to pull off the road, then pull off
c) Stop where you are and signal other traffic to go around you
d) Pull off the road immediately, even if you can't get entirely off the road

24. Your tires will get worn in the middle if:

a) They have too little air in them
b) You make sharp turns
c) They have too much air in them
d) You do a lot of driving on gravel roads

25. When taking a long trip, you should limit your driving to:

a) The distance your car can go without over-heating
b) 4 hours a day with several rest stops
c) 8 hours a day with several rest stops
d) 12 hours a day with several rest stops

26. Before driving, you should adjust your sideview mirror so that you:

a) Do not see any part of your vehicle when you are sitting in your normal driving position
b) Just see the left edge of your vehicle when you lean to the left
c) See the rear window of your vehicle when you are sitting in your normal driving position
d) Just see the left edge of your vehicle when you are sitting in your normal driving position

27. The best way to be sure that it is safe to back up is to:

a) Look out the left side window
b) Look directly out the rear window
c) Look into the rearview mirror
d) Blow the horn and wait a few seconds

28. The shape of this sign indicates:

a) No passing zone
b) Stop
c) Yield right-of-way
d) Slow traffic keep right

29. When you come to a railroad crossing where the signal tells you a train is coming, the safest thing to do is:

a) Bring your car to a complete stop before you reach the signal
b) Slow down and look both ways
c) Continue at the same speed and check for a train before crossing
d) Estimate how fast the train is approaching and then cross the tracks

30. Before pulling out to pass a car, you should check the:

a) Outside and rearview mirrors
b) Rearview mirror
c) Outside and rearview mirrors, and look over the left shoulder
d) Outside mirror, rearview mirror, and then outside mirror again

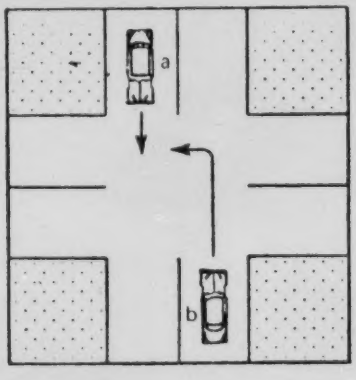
31. If you have to slow down quickly or make a sudden stop, you should:

a) Blow your horn before coming to a stop
b) Signal to the vehicle behind you if possible
c) Hold the steering wheel by the spokes
d) Shift into neutral before applying the brakes

32. Driving more slowly than the traffic flow:

a) Is usually a safe practice
b) Increases your chances of being struck from behind
c) Encourages other drivers to slow down
d) Is against the law

33. The cars in the diagram below have arrived at their positions at the same time. There are no traffic signs or lights. Mark the letter on your answer sheet for the car that has right-of-way.



34. A solid line and a broken line painted on the center of a two-lane highway mean:

a) Passing is not permitted when the solid line is on your side
b) Passing is permitted only when the solid line is on your side
c) Passing is permitted in either direction
d) Passing is not permitted in either direction

35. When driving on an upgrade covered with snow or ice, you can prevent wheel spinning by:

a) Increasing your speed when you begin to climb
b) Shifting into low gear before starting up
c) Maintaining a constant pressure on the accelerator
d) Applying the brakes every now and then

36. If you are driving on icy roads in freezing weather, you should:

a) Approach curves and intersections slowly
b) Slow down after you enter curves or intersections
c) Drive at normal speeds if you have snow treads or chains
d) Stay in low gear most of the time

37. When it is very foggy during the day or night, you should:

a) Put on your high beam lights
b) Slow down
c) Follow closer to other vehicles
d) Turn on interior car light

38. At night you should drive slow enough to be able to stop within:

a) 5 car lengths
b) The distance lighted by your headlights
c) 200 feet
d) 10 seconds from the time you hit the brake

39. If the temperature drops below freezing after a rain:

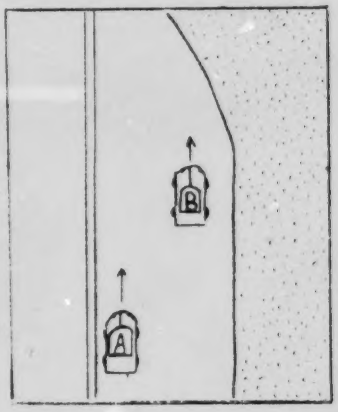
a) Stop and put chains on as soon as possible
b) Do not driver faster than 35 mph
c) Test your brakes from time to time
d) Stop at every intersection

40. On a two lane highway, you should never:

a) Follow immediately after a vehicle that is making a pass
b) Pass a car that is towing a trailer
c) Pass a car signalling a right turn
d) Pass a car that is not going more than 15 mph below the speed limit

41. In a situation like the one illustrated in the diagram, the driver of Car A should:

a) Be prepared for Car B to cut in front of him
b) Pass Car B as soon as possible
c) Move to the right lane behind Car B
d) Sound his horn several times



42. Having one or two drinks before driving:

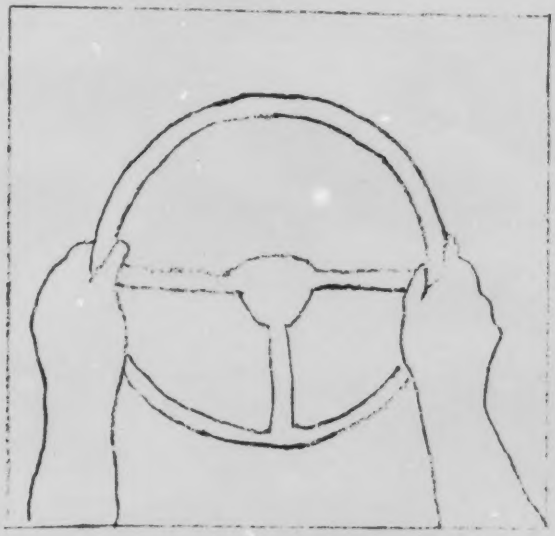
a) Is safe if you have been eating too
b) Has little or no effect on your driving ability
c) Will affect your reactions and judgment
d) Is illegal in most states

43. Before taking any drugs and then driving, it is important to:

a) Plan to have some other person with you
b) Know what the effects of the drug are
c) Have some food in your stomach
d) Plan on stopping every few hours

44. The hand position shown in the diagram is best for emergency situations because:

a) You won't sound the horn by mistake
b) You can keep from turning the wheel too sharply
c) You have better control over steering
d) It is easier to make a hand signal from this position



45. You are most likely to skid when:

a) On asphalt roads, in tunnels, and when it is windy
b) On curves, sand or gravel roads, and when making quick stops
c) Making left turns, driving on bridges, and when speeding up
d) Making turns on brick roads, backing up, and when at city intersections

46. If the rear of your vehicle is skidding to the left, you should:

a) Turn the top of your steering wheel to the left
b) Avoid moving the steering wheel till you are out of the skid
c) Turn the top of your steering wheel to the right
d) Turn the top of the steering wheel to the right and then to the left once you get traction

47. If your hood opens while driving, you should:

a) Step on the brake and stop as fast as you can
b) Signal for a stop and steer out of the main flow of traffic
c) Avoid leaving the road since you cannot see where you are going
d) Come to a stop on the road and put the hood down

48. When you have a flat tire on the highway, the most important thing to do is:

a) Stop immediately so that the tire won't be damaged further
b) Drive until you find a place where you can pull completely off the road
c) Pull off the road without delay and set up flares
d) Stop and turn on your emergency flashers

49. If your tires are badly worn, you should:

a) Replace them
b) Rotate them
c) Avoid driving on hot days
d) Have them balanced

50. When going on a long trip, it is most important to:

a) Get plenty of rest before starting out
b) Have someone else with you in the vehicle
c) Have a good meal before starting out
d) Keep the radio on

DRIVING KNOWLEDGE TEST

CORRECT ANSWERS

ITEM	ANSWER	ITEM	ANSWER
1	a	26	d
2	c	27	b
3	c	28	c
4	a	29	a
5	b	30	c
6	b	31	b
7	c	32	b
8	a	33	a
9	a	34	a
10	b	35	c
11	b	36	a
12	b	37	b
13	d	38	b
14	b	39	c
15	a	40	a
16	c	41	a
17	a	42	c
18	d	43	b
19	d	44	c
20	d	45	b
21	a	46	a
22	d	47	b
23	b	48	b
24	c	49	a
25	c	50	a

DRIVING KNOWLEDGE TEST

CRITICALITY AND SOURCE TABLE

ITEM	LAP	SOURCE[1]	CRITICALITY RATING[2]
1	2-1	HSRI #7	MHC
2	2-2	HSRI #319	MHC
3	3-1	HSRI #1072	MHC
4	3-1	HSRI #647	HC
5	3-1	DETA: 10 #72	MHC
6	3-2	DETA: 10 #81	MHC
7	3-3	DETA: 10 #10	MHC
8	3-4	DETA: 10 #90	MHC
9	3-4	DETA: 10 #26	HC
10	4-1	DETA: 10 #8	MHC
11	4-1	HSRI #372	HC
12	4-2	HsRI #401	MHC
13	4-3	HSRI #619	HC
14	4-4	DETA: 10 #40	MHC
15	5-1	HSRI #276	HC
16	5-2	NEW	MLC
17	6-1	HSRI #665	HC
18	6-1	DETA: 10 #61	MHC
19	7-1	NEW	MLC

(continued)

[1] HSRI: Item taken from Berger, W.G., et al., A Handbook for Driver License Knowledge Tests. Part II: Test Item Pool. Highway Safety Research Institute, University of Michigan, October, 1971.

DETA: 10: Item taken from the Driving Knowledge Test of the Driver Education Task Analysis Volume IV: The Development of Instructional Objectives. Human Resources Research Organization, Alexandria, Virginia, March, 1971.

NEW: Generated item.

[2] The criticality rating of the related driver task (HC = High Criticality: MHC = Moderately High Criticality; MC = Moderate Criticality; MLC = Moderately Low Criticality).

ITEM	LAP	SOURCE	CRITICALITY RATING
20	7-2	HSRI #440	HC
21	7-2	HSRI #443	HC
22	7-3	DETA: 10 #58	HC
23	8-1	HSRI #434	MHC
24	8-2	HSRI #702	MLC
25	8-3	HSRI #21	MLC
26	2-1	HSRI #8	MHC
27	2-2	DETA: 10 #13	MHC
28	3-1	HSRI #1080	MHC
29	3-1	NEW	HC
30	3-1	DETA: 10 #77	MHC
31	3-2	HSRI #906	MHC
32	3-3	NEW	MHC
33	3-4	DETA: 10 #91	MHC
34	3-4	HSRI #1247	HC
35	4-1	DETA: 10 #46	MHC
36	4-1	NEW	HC
37	4-2	HSRI #406	HC
38	4-3	HSRI #621	HC
39	4-4	HSRI #413	MHC
40	5-1	NEW	HC
41	5-2	NEW	MLC
42	6-1	HSRI #673	HC
43	6-1	HSRI #678	MHC
44	7-1	NEW	MLC
45	7-2	HSRI #437	HC
46	7-2	HSRI #446	HC
47	7-3	HSRI #430	MHC
48	8-1	NEW	MHC
49	8-2	HSRI #705	MHC
50	8-3	HSRI #23	MC

Appendix B

UNIT KNOWLEDGE TESTS

Test Administration Guidelines

UNIT KNOWLEDGE TESTS

TEST ADMINISTRATION GUIDELINES

PURPOSE

The unit knowledge tests are paper and pencil tests usually consisting of 10 multiple choice items. They are designed to measure student attainment of curriculum knowledge objectives for each unit.

TEST ADMINISTRATION

Date: Generally, final classroom session for each unit. (Refer to "Assignment Schedule" in the Appendix to the Unit 1 Instructor Guidance Package for details.)

Time Required: 10-15 minutes

Materials Required: (1) One test for each student
(2) One answer sheet for each student
(3) One #2 pencil for each student
(4) Answer rationale for each student (distributed after test administration)

Test Room Conditions: Those conducive to good concentration and individual work

INSTRUCTIONS TO STUDENTS

Two sets of instructions follow. Set 1 should be used with classes of students who have "average" or better reading comprehension and speed. Set 2 may be employed when, in the instructor's judgment, reading the questions aloud to the class would appreciably improve students' comprehension of the test and save limited class time (i.e., set 2 is appropriate for classes comprised of slow readers).

Set 1

"Today you will be taking the knowledge test for Unit ___. It will be a short multiple choice test. The results of this test, in combination with the results from other unit knowledge tests, will contribute toward your final grade.

It is important that you work individually and quietly.

I am going to hand out the test now. Please don't start until I say so." (Hand out tests with instructions and answer sheet clipped to the front of the test, and pencils.)

"Detach the answer sheet from the test and read the instructions carefully.

(Pause)

Are there any questions?

Remember - For each question, choose the ONE answer you consider most correct.

- Put your answers only on the answer sheet.

You have 15 minutes to complete the test. You may begin."

Note: Before collecting the test materials, ask students to ensure that their name, school, and date are written on the answer sheet. Guidelines for discussion of knowledge tests are provided in the Instructor Guidance Package for each unit.

SCORING: The tests are to be scored on a percentage basis. Except for the Unit 3 knowledge test which has more than 10 items, assign 10 points to each correct answer. The sum of the points will represent the percentage score.

Set 2

"Today you will be taking the knowledge test for Unit ___. It will be a short multiple-choice test. The results of this test, in combination with the results from other unit knowledge tests, will contribute toward your final grade.

It is important that you work individually and quietly.

I am going to hand out the test now. Please don't start until I say so." (Hand out tests with instructions and answer sheet clipped to the front of the test, and the pencils.)

"Detach the answer sheet from the front of the test and put it to one side. I will be reading the test questions aloud when you take the test, but first we will read through the instructions. Read the instructions to yourself as I read them." (Read instructions and explain example item.)

"I will read the question and the four possible answers. Wait until I have finished reading all the answers before you choose your answer. I will then pause while you put your answer on the answer sheet before going on to the next question.

Are there any questions?

Remember - For each question, choose the ONE answer you think is MOST correct.

- Put your answers only on the answer sheet."

(Read first question . . .)

UNIT _____/LAP _____ KNOWLEDGE TEST

INSTRUCTIONS
(To be attached to the front page of each test)

Please use the pencil provided

Take the Answer Sheet and: Where it says NAME write your name

Write the name of your SCHOOL on the Answer Sheet

Write today's DATE on the Answer Sheet

When you take the test, you should: Pick the ONE answer you think is MOST correct for each question

Circle the correct answer ON THE ANSWER SHEET

Not write on the test itself

EXAMPLE: 1. A red traffic light means:

a) slow down
b) stop
c) go
d) turn

If you think "stop" is the correct answer, you would find the number "1" on the answer sheet and then circle the letter "b" (fill in the blank next to the letter "b" for IBM score sheet).

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ANSWER SHEET

KNOWLEDGE TEST

This is a test for Unit (or LAP) _____

Name: _____ School: _____

Date: _____

1. a b c d
2. a b c d
3. a b c d
4. a b c d
5. a b c d
6. a b c d
7. a b c d
8. a b c d
9. a b c d
10. a b c d

---

11. a b c d e
12. a b c d e
13. a b c d e
14. a b c d e
15. a b c d e
16. a b c d e
17. a b c d e

Appendix C

BASIC SKILLS RANGE TEST

Sample Data Sheet

Equipment Checklist

BASIC SKILLS RANGE TEST

SAMPLE DATA SHEET[1]

STUDENT CONTROL NUMBER _____

TEST CODE NUMBER _____

STUDENT NAME _____/_____
Last First M.I.

TEST DATE _____/_____/_____
month day year

TEST SITE _____

WEATHER CONDITIONS _____ Dry and sunny

_____ Wet and sunny

_____ Dry and overcast

_____ Wet and overcast

_____ Downpour (low visibility)

TIME OF DAY _____ AM

_____ PM

[1] Attach to each test.

RANGE TEST

EQUIPMENT CHECK LIST

An instructor or an instructor aide should see that the conditions listed below are met well before the start of each range test.

_____ Pillows, brake and accelerator extensions in car

_____ Car trunks empty of cones, flags and other range equipment

_____ Cones and flags arranged appropriately on the range

_____ Car radio turned off

_____ Range test forms available

_____ Communications equipment operable

Appendix D

ON-ROAD PERFORMANCE TEST

Sample Data Sheet

Equipment Checklist

Administrator's Guide

SAMPLE DATA SHEET[1]

ON-ROAD PERFORMANCE TEST

STUDENT CONTROL NUMBER _____

TEST CODE NUMBER _____

STUDENT NAME _____ / _____
Last First M.I.

TEST DATE _____/_____/_____
month day year

TEST SITE _____

ROUTE _____ Inbound

_____ Outbound

WEATHER CONDITIONS _____ Dry and sunny

_____ Wet and sunny

_____ Dry and overcast

_____ Wet and overcast

_____ Downpour (low visibility)

RATERS CODE NUMBER _____ (If there is more than one rater, each rater is assigned a number. Enter here)

TIME OF DAY _____ AM

_____ PM

TRAFFIC DENSITY _____ Heavy

_____ Moderate

_____ Light

[1]Attach to each test.

EQUIPMENT CHECKLIST

ON-ROAD PERFORMANCE TEST

An instructor or an instructor aide should see that the conditions listed below are met well before the start of each on-road performance test.

_____ Car has sufficient gas

_____ Car top sign affixed

_____ Pillows, brake and accelerator extensions in car

_____ First aid kit and flares in car

_____ Trunk empty of cones and other range equipment

_____ Car radio turned off

_____ Mirrors checked (rear, side, and instructor eye-check mirrors)

_____ Inbound and outbound test booklets

ON-ROAD PERFORMANCE TEST

ADMINISTRATOR'S GUIDE

Pre-Selection of Students

Safety considerations dictate that the instructor determine the proficiency level of students prior to on-street testing.[1]

Administrator's Guide

The Administrator's Guide on the following pages is intended to assist administrators or raters of the On-Road Performance Test. For each performance check, the guide identifies the following:

1. The most appropriate situation in which to administer the performance check, as an aid to route selection;
2. The meaning of each performance check response category, as an aid to recording the examinee's responses.

The situations in which each performance check is carried out will vary too widely to permit highly detailed guidance on the use of response categories. Rather, the guide provides general principles related to test administration and attempts to define the manner in which the judgments of a competent administrator may be recorded.

The performances described within this guide are intended to provide an overview of the checks which may be made when the administrator is confronted with a particular situation (e.g., Left Turn with Oncoming Traffic) during the course of the test.

---

[1]Although the instructor's judgment of student ability should be the overriding consideration in selection, experience in the Kansas City pilot test administration of the test indicated that students having three exposures to the range and two exposures to on-street instruction could perform adequately on the test. Less than two percent of the tests (n = 333) were aborted due to student inability to perform.

For each maneuver, the following format is used:

Maneuver[1] _____ Item #[2] _____

Cue Student[3] _____

Scoring Interval[4] _____

Var. No.	Variable Name	SCORE P	F	n/a
1.0	Path			
1.1	Position . . .			
2.0	Speed.			
3.0	Signaling. . . .			
4.0	Observing. . . .			
5.0	Traffic Control.			
6.0	Task			

Rater's Comments:

---

[1]A list of all maneuvers included in the On-Road Performance Test appears on page .

[2]Items are numbered in the sequence in which they occur (e.g., Item #1 is Pre-Op, Item #2 may be Left Turn, depending on the route, the last item would always be Shut-Down). The number of maneuvers for a specific route will vary, depending on the time allotted for the test and the maneuver potential available on the test route. In the Kansas City pilot administration of the test, each student was rated on approximately 35 maneuvers (25 - 30 minutes driving time per student). Note: Test administration in the pilot test took place within a one-hour session, during which two students were tested. The first student drove the "outbound" route, which ended approximately 25 minutes away from the test site; the second student drove the "inbound" segment, which ended back at the site.

[3]Information given here will tell the test administrator <u>where</u> to cue the student and <u>what</u> to tell the student, e.g., At the fire hydrant on Smith Street *(direction to instructor)*, "Turn right at the next street" *(cue to student)*.

[4]The scoring interval defines the area in which the rater scores the driver. Scoring intervals are included in the definitions for each of the maneuvers.

Definitions for each of these variables and for "Pass," "Fail," and "Not Applicable" are described in general terms on pages 77 thru 80. Then, beginning on page 81, checks are broken out by situations or maneuvers.

DEFINITIONS FOR MANEUVER VARIABLES[1]

Pass - A student's performance on a task or element of a task that the rater judges as safely executed.

Fail - A student's performance on a task or element of a task that the rater judges as not minimally skillful, or not safely executed. (Further defined in "Definitions for Maneuver Checks.")

Not Applicable - A task or task element listed on the test score sheet that could not be scored either Pass or Fail because (1) the task was interrupted by responding to an emergency or hazard; (2) a task, by definition, did not contain a given scoreable task element (would not occur if the test format were made "route specific," i.e., those variables which do not apply to a specific maneuver are deleted prior to test administration); or (3) the conditions requiring student response did not occur; e.g., the student could not respond to parked cars or pedestrians because none were in the area which was programmed for these maneuvers.

Not Scoreable - Pertains only to observing, where the rater has no reasonable, direct evidence that the student was or was not actually observing when required by the driving task being scored. (Use N/A block and mark "N/S")

Path - The ground path, lateral and longitudinal, taken by the vehicle through a period of time. This includes forward and backward motion and turns. Gap acceptance is also scored under "Path." If a student does not enter an acceptable gap in the course of a maneuver (e.g., left turn with oncoming traffic), or enters an unsafe gap, the student fails "Path."

Position - The lateral and longitudinal location of the vehicle when it is stopped (e.g., at a STOP sign, the car's front should not extend into the intersection and the car should not extend into an adjacent lane). Position should only be scored when the vehicle is at a stop.

Path and Position would both be scored during a single maneuver if the driver were required to stop during the task, e.g., Left Turn with Oncoming Traffic.

[1]Further defined for specific maneuvers on pages 81 through 94.

DEFINITIONS FOR MANEUVER VARIABLES (Continued)

Speed - The value indicated by the car's speedometer throughout the scoring interval. In most instances, the student would be marked "Fail" for exceeding the speed limit by more than 3-4 mph, or for driving so slowly that he creates a hazard. The student would be scored "Pass" for the speed variable by decelerating, accelerating, or maintaining a steady speed when appropriate, i.e., travelling at a speed which is safe and appropriate for existing conditions.

Signaling - Hand and/or automatic direction change indications, including manual cancellation of automatic signals (e.g., a student who signals for a turn too early, or omits the signal for a turn would fail on this variable).

Observing - Obvious movements of the eyes, head, and shoulders which the rater identifies as part of the driver's visual searching behavior. Braking, covering the brake, or evasive steering in the presence of a hazard or as a response to the movement or signals of other vehicles would indicate that the student was "observing" properly.

Traffic Control - Responses to signals, signs, police, firepolice, firemen, barricades, etc.

Task - The rater's judgment of the overall performance on the task, based upon a review of the scores on all task elements.

Raters' Comments - Provided for each maneuver. May be used to rate additional details of student performance (e.g., if "Speed" was marked "Fail," rater might use "Comments" section to denote "too fast" or "too slow;" if "Path" was marked "Fail," rater may note "waited too long for gap," or "turned too wide," etc.). If student could not be scored on a maneuver or most of its elements because of some unusual circumstance (e.g., child runs out into car's path), this should be noted in the comments section for that maneuver. Upon test completion, the rater should use the blank score sheets provided at the end of the route to provide details on student performance--in this case, perceiving and reacting to a hazard.

Blank Score Sheets - Supplied at the end of the test route to rate "Unprogrammed Checks," (see page), but should not be used at the expense of rating standard items.

INDEX TO DEFINITIONS FOR MANEUVER CHECKS

Performance Check	Page
Pre-Op	82
Standard Left Turn	82
Oncoming Traffic Left Turn	84
Cross Traffic Left Turn	86
Standard Right Turn	86
Cross Traffic Right Turn	87
Standard Through	87
Hazard Response	88
Normal Transit	89
Curves	89
Hills	90
Passing Judgment	91
Merge	91
Exit	92
Bridge	92
Lane Change	93
Shut-Down	93
Unprogrammed Checks	93
Additional Observations	94

PRE-OP

The only variable checked for "Pre-Op" is "Task." The student would be marked "Fail" for "Task" if he fails to do one of the following or if these tasks are not performed in the proper order: (1) Locks doors; (2) Puts key in ignition; (3) Adjusts seat, head restraint, and mirrors; and (4) Fastens seat belt and shoulder harness.

STANDARD LEFT TURN

This check is generally made at an intersection which either has very little traffic or in which left turning traffic is sufficiently well controlled to create little problem for the driver (e.g., left turn arrow). The scoring interval should begin approximately 100 feet prior to the turn and end approximately 100 feet following the turn.

PATH

Initial Path

Pass--The student should be in the left-most lane or, if it is a two-lane road, the left portion of the lane.
Fail--Making the left turn from a center or right lane; turning from the right-hand portion of the lane on a two-lane road.

Path Throughout Turn

Pass--The student should make a fairly sharp left-angle turn.
Fail--(1) Too Sharp: Turning so sharply as to cut across the oncoming traffic lanes (left lane) at an oblique angle, or to encroach upon the right-hand lanes of the street he is turning into.
(2) Too Wide: Making the turn so wide that an overcorrection is needed to prevent striking the curb or entering the wrong lane.

Final Path (i.e., the lane, or position within the lane, on the road the student is entering)

Pass--The student should enter the left-hand most lane of traffic, unless that lane is blocked or otherwise inaccessible.
Fail--Entering any lane other than the left-most lane (unless it has been necessary to do so).

The student should maintain the correct path in all stages of the turn in order to pass "Path."

Standard Left Turn (Continued)

POSITION

"Position" for a Standard Left Turn is defined as the lateral and longitudinal position of the vehicle when it is stopped, i.e., waiting to turn.

SPEED

"Speed" for a Standard Left Turn is the value indicated by the car's speedometer prior to, during, and upon completion of the turn. The driver is scored on his ability to decrease or increase his speed smoothly and when appropriate prior to, during, and upon completion of the turn.

SIGNALLING

"Signalling" refers to the use of mechanical or hand signals to indicate the intention to turn.

N/A --Indicates an occasion where no turn signal is required.
Pass--Signalling at the earliest possible moment, without causing confusion to traffic behind.
Fail--(1) Late: Signalling after the intersection has been reached.
(2) Too Early: Signalling at a point that would lead following traffic to believe the driver intends to turn at a spot in advance of the place he actually intends to turn.
(3) Not signalling at all.

OBSERVING

"Observing" refers to the student's observation of cross traffic prior to making the turn.

Pass--Checking traffic from both left and right.
Fail--Checking traffic in one direction only or making no check at all.

TRAFFIC CONTROL

Pass--Student responds appropriately to any signals, signs, or lane markings encountered at the intersection in which the turn is made.
Fail--Student does not respond appropriately to signals, signs, or lane markings.

Standard Left Turn (Continued)

TASK

"Task" refers to the rater's judgment of the driver's overall performance on the left turn maneuver.

ONCOMING TRAFFIC LEFT TURN

This check is made at an intersection in which cross traffic is controlled and where the student's primary problem is crossing the path of oncoming traffic. The scoring interval should begin approximately 100 feet prior to the turn and end approximately 100 feet following the turn.

PATH

Initial Path

Pass--The student should be in the left-most lane or, if it is a two-lane road, the left portion of the lane.
Fail--Making a left turn from a center or right lane; turning from the right-hand portion of the lane on a two-lane road.

Path Throughout Turn

Pass--(See Standard Left Turn) In addition, the student should accept any gap that allows him to complete the turn without interfering with the progress of an oncoming car.
Fail--(See Standard Left Turn) In addition, the following variables should be considered for an Oncoming Traffic Left Turn:
(1) Unsafe: Accepting a gap that causes an oncoming car to decelerate.
(2) Overcautious: Passing up one or more acceptable gaps.

Final Path (i.e., the lane, or position within the lane, on the road the student is entering)

Pass--The student should enter the left-hand most lane of traffic, unless that lane is blocked or otherwise inaccessible.
Fail--Entering any lane other than the left-most lane (unless it has been necessary to do so).

The student should maintain the correct path in all stages of the turn in order to pass "Path."

Oncoming Traffic Left Turn (Continued)

POSITION

"Position" for an Oncoming Traffic Left Turn is defined as the lateral and longitudinal position of the vehicle when it is stopped, i.e., waiting to turn.

N/A --This check would be used if the driver were not required to await a gap in oncoming traffic.

Pass--The student should enter the intersection to make a left turn, but should not proceed so far as to force oncoming traffic to make a left turn behind him.

Fail--(1) Too Far: Entering the intersection so far as to require left-turning traffic to turn behind him.
(2) Too Short: Entering the intersection just a little ways, or not entering the intersection at all (unless prevented from doing so by traffic already in the intersection).
(3) Wheels Turned: Waiting for a gap in oncoming traffic with the wheels turned.

SPEED

"Speed" for an Oncoming Traffic Left Turn is the value indicated by the car's speedometer prior to, during, and upon completion of the turn. The driver is scored on his ability to decrease or increase vehicle speed smoothly and when appropriate prior to, during and upon completion of the turn.

SIGNALLING

See Standard Left Turn, page 82.

OBSERVING

"Observing" refers to the student's observation of oncoming traffic prior to making a turn.

Pass--Selecting a gap that allows him to complete the turn without interfering with the progress of an oncoming car.

Fail--Accepting a gap that causes an oncoming car to decelerate, or passing up one or more acceptable gaps.

TRAFFIC CONTROL

See Standard Left Turn, page 82.

Oncoming Traffic Left Turn (Continued)

TASK

"Task" refers to the rater's judgment of the driver's overall performance on the oncoming traffic left turn maneuver.

CROSS TRAFFIC LEFT TURN

This check would be made at an uncontrolled intersection where there is a reasonable expectation of cross traffic. The checks and scoring interval are the same as for "Oncoming Traffic Left Turn," except that gap acceptance on "Path Throughout Turn" applies to cross traffic (from both directions). In addition, the "Traffic Control" variable will not be applicable, except as it applies to lane markings.

STANDARD RIGHT TURN

This check is generally made at an intersection which either has very little traffic or in which traffic is sufficiently well-controlled to create little problem for the driver. The checks and scoring intervals are the same as for "Standard Left Turn" with the following exceptions:

PATH

Initial Path

Pass--The student should be in the right-most lane or, if it is a two-lane road, the right portion of the lane.
Fail--Making the right turn from a center or left lane; turning from the left-hand portion of the lane on a two-lane road.

Path Throughout Turn

Pass--The student should make a sharp right turn (staying within the lane throughout the turn), and enter the right-most transit lane, unless that lane is blocked.
Fail--(1) Too Wide: Turning in such a way as to encroach upon the lane adjacent to the right lane.
(2) Too Sharp: Turning so sharply as to cause the right rear tire to cut inside the paved surface (e.g., over the curb).

Final Path

Pass--The student should enter the right-most lane of traffic, unless that lane is blocked or otherwise inaccessible.
Fail--Entering any lane other than the right-most lane (unless it has been necessary to do so).

Standard Right Turn (Continued)

The student should maintain the correct path in all stages of the turn in order to pass "Path."

CROSS TRAFFIC RIGHT TURN

This check would be made at an uncontrolled intersection where there is a reasonable expectation of cross traffic. The checks and scoring interval are essentially the same as for "Standard Right Turn." "Path" variables are the same as for "Cross Traffic Left Turn" (page), except that gap acceptance on "Path Throughout Turn" applies only to traffic approaching from the left. In addition, the "Traffic Control" variable will not be applicable, except as it applies to lane markings.

STANDARD THROUGH

This check would be made when the student is passing directly through an intersection--that is, he is not turning. The scoring interval begins approximately 100 feet prior to the intersection and ends when the intersection is cleared.

PATH

"Path" for a Standard Through is defined as the lateral and longitudinal positioning of the vehicle in the traffic lane which permits the driver to cross the intersection with the least interference from other traffic. This would generally be the right lane on a four-lane road (particularly if left-turning traffic blocks the left lane) and the center lane on a six-lane road.

POSITION

"Position" for a Standard Through is defined as the lateral and longitudinal position of the vehicle when it is stopped, i.e., waiting to cross the intersection. This would apply only if the traffic light were red, or if the student needed to stop for any other reason (e.g., conflicting traffic).

ED

"Speed" for Standard Through is the value indicated by the car's speedometer throughout the maneuver. The driver is scored on his ability to decrease or increase his speed smoothly and when appropriate.

Standard Through (Continued)

SIGNALLING

"Signalling" would not usually be applicable in a Standard Through, unless the driver must brake (rather than merely letting up on the accelerator) in order to slow for cross traffic or a red light, thereby warning traffic behind.

OBSERVING

"Observing" refers to the student's observation of cross traffic prior to entering the intersection. This check should be made even if cross traffic is controlled.

TRAFFIC CONTROL

Pass--Student responds appropriately to any signals, signs, or lane markings encountered at the intersection.
Fail--Student does not respond appropriately to signals, signs, or lane markings.

TASK

"Task" refers to the rater's judgment of the driver's overall performance on the Standard Through Maneuver.

HAZARD RESPONSE

This check would be made through a segment of the route in which the student is likely to encounter a possible hazard from cars, pedestrians, cyclists, etc. . . . , entering the roadway. Examples of such areas include (1) busy shopping areas where there is a general mid-block movement of pedestrian traffic; (2) short term, metered on-street parking areas where cars and drivers move in and out frequently; (3) shopping centers where pedestrians and vehicular traffic follow an irregular pattern; and (4) playgrounds or streets where children are likely to be playing. It is the driver's response to potential hazards, before they enter the path of the car, that is to be checked.

If no potential hazard arises over that segment of the route where the check is called for, the test administrator should check "Not Applicable" for "Task." If a potential hazard does arise, all of the variables listed for the maneuver should be checked. The general definitions listed on pages 79 and 80 would apply here.

NOTE: The student would be checked "Fail" for the "Task" if he responds to the potential hazard, but does not exercise sufficient caution (e.g., comes off the accelerator when

a braking response is required), or if the student fails to respond at all, indicating that he has not even perceived the potential hazard.

If a hazard response is called for and it has not been programmed, the rater should note this in the "Comments" section for that maneuver. In some cases, if an unprogrammed response is called for during a programmed maneuver, the latter would be marked "Not Applicable" and the former would be rated on the blank score sheets provided at the end of the route (See "Raters' Comments," page 80.)

NORMAL TRANSIT

This check would be made for approximately one or two city blocks along a relatively straight stretch of roadway. The scoring interval occurs between any two selected points, x and y. The general definitions on pages 79 and 80 will apply to Normal Transit. However, the following variable definitions are peculiar to this maneuver:

PATH

Pass--The student positions the car within a lane that represents the best compromise between hazards from the left and right. In addition, the student must maintain at least a two-second interval from traffic ahead at all times throughout the designated segment.

Fail--(1) Too Far Left: Not leaving sufficient separation from oncoming traffic; or encroaching upon an adjacent lane.
(2) Too Far Right: Not leaving sufficient lateral separation from parked vehicles or pedestrians along the right.
(3) Improper Following Distance: Closing to less than two seconds from a car ahead on one or more occasions over the designated segment.

SPEED

The student should be check "Fail" for "Speed" if he exceeds the speed limit by more than 4-5 mph at one or more points along the route segment. In addition, if he falls below the speed limit sufficiently to create a possible hazard to traffic behind at one or more points along the route segment, he would be scored "Fail."

CURVES

This check would be made on the highway, where there is a bend in the roadway of sufficient curvature as to require a speed adjustment on the part of the driver. The scoring interval can be between any two designated

Curves (Continued)

points before and after the curve. One or more curves can be included in a check. The general definitions on pages 79 and 80 will apply to Curves. However, the following variable definitions are peculiar to this maneuver:

PATH

Pass--Remaining completely within the travel lane throughout the curve.

Fail--(1) Cross Left: The student encroaches upon a lane to the left at some point in the curve.

(2) Cross Right: The student encroaches upon a lane to the right (or the shoulder) at some point in the curve.

SPEED

The student would be checked "Pass" for "Speed" if he enters the curve at a speed which is appropriate to the curvature, super-elevation, traction, etc. of the curve and if he maintains a steady pressure on the accelerator throughout the curve.

The student would be checked "Fail" for this variable if he enters the curve at a speed which is inappropriately high, or if he accelerates too rapidly once in the curve. The student would also be checked "Fail" if he enters the curve at a speed which is inappropriately low, or if he decelerates too much (possibly creating a skid situation) once on the curve.

HILLS

This check is made on an uphill or downhill of sufficient grade to require a speed adjustment. The scoring interval can be between two designated points before and after the hill. The general definitions on pages 79 and 80 will apply to Hills. However, the following variable definitions are peculiar to this maneuver:

PATH

Pass--The student will generally keep as far to the right as possible upon approaching a crest or dip.

Fail--Lateral or longitudinal positioning throughout the maneuver is viewed by the rater as "unsafe."

SPEED

The student would be checked "Fail" for "Speed" if he does not slow down when approaching a crest or dip, if he drives too fast or too

slowly at any time throughout the maneuver, or if he applies the brake when it is unnecessary to do so.

PASSING JUDGMENT

This check would be made on a relatively long, straight stretch of a two-lane roadway, where passing distance may be restricted by an oncoming car. It is set up by asking the student at a given point on the route if he "has enough time to pass." The student then responds by saying whether he would or would not pass at that point. The rater checks only the "Task" variable for this maneuver--Pass or Fail.

Pass--Nine to fourteen seconds should elapse between the time the student indicates he would pass and the time the car arrives at the oncoming car.

Fail--Less than nine seconds.

Prior to test administration, each student should be briefed as to the nature and intent of the passing maneuver. The student must be informed that he will not actually make an attempt to pass, but will merely make a decision about whether he would have time to pass safely at the time the instructor asks, "Do you have enough time to pass?" Driver should also be told that if there is not a car in front of his vehicle at the time the question is asked, he should assume that there is a car in front of him.

MERGE

This check is generally made on an entrance to a freeway or expressway. It may also be made on any oblique approach to a highway. The scoring interval begins 100 feet before entering the freeway and ends approximately 100 feet following entrance to the freeway. The general definitions on pages 79 and 80 will apply to Merge. However, the following variable definitions are peculiar to this maneuver:

PATH

Pass--In addition to correct lateral and longitudinal positioning of the vehicle throughout the maneuver, the student should accept any gap that allows him to enter the expressway without interfering with the progress of vehicles on the expressway.

Fail--In addition to not maintaining a safe lateral or longitudinal position, the following would also constitute a "Fail":

(1) Unsafe: Accepting a gap that causes a vehicle on the expressway to decelerate.

(2) Overcautious: Passing up one or more acceptable gaps.

Merge (Continued)

SPEED

The student would be marked "Fail" for "Speed" if he drives too fast at any time throughout the maneuver, if he enters the expressway at a speed that is less than desirable or necessary, or if he comes to a complete stop (unnecessarily) before entering.

EXIT

This check would be made at any point throughout the route in which the student leaves the expressway or freeway at an oblique angle. The scoring interval begins approximately 100 feet before leaving the freeway and ends approximately 100 feet following the exit (or at the end of the ramp, if there is one). The general definitions on pages 79 and 80 will apply to Exit. However, the following variable definitions are peculiar to this maneuver:

PATH

Pass--In addition to correct lateral and longitudinal positioning of the vehicle throughout the maneuver, the student should enter the deceleration lane at the first safe opportunity.

Fail--In addition to not maintaining a safe lateral or longitudinal position throughout the maneuver, the student would be marked "Fail" for entering the deceleration lane at an inappropriate point.

SPEED

For the Exit maneuver, the student should maintain the highway or expressway speed until he enters the deceleration lane, then decelerate to the posted (or safe) speed once he is on the off-ramp or deceleration lane. The student would be checked "Fail" for "Speed" if he drove too fast on the off-ramp or deceleration lane. He would also be checked "Fail" if he decelerates on the main highway or if he decelerates inordinately.

BRIDGE

The checks made when the driver crosses the bridge are essentially the same as for "Normal Transit," page 89. The scoring interval occurs at any two selected points--one prior to entering the bridge and the other after having crossed the bridge.

LANE CHANGE

The scoring interval for a Lane Change begins immediately after the given cue and continues until car is positioned in designated lane. The general definitions on pages 79 and 80 will apply to Lane Change. However, the rater should be particularly aware of the following variables:

(1) Path--in relation to "gap acceptance." The student should not accept a gap that requires a vehicle in the adjacent lane to decelerate. In addition, the student should not be "overcautious"--that is, passing up one or more acceptable gaps.

(2) Observing--the student should make both mirror and head checks.

SHUT-DOWN

The only variable checked for "Shut-Down" is "Task." The student would be marked "Fail" for "Task" if he fails to do one of the following or if these tasks are not performed in the proper order: (1) Puts gear selector lever in PARK; (2) Turns ignition OFF; (3) Sets parking brake; and (4) Removes safety restraints.

UNPROGRAMMED CHECKS

These checks refer to infrequent or unprogrammed events which may occur at any time throughout the route. The rater may note them briefly in the "Rater's Comments" section provided for each maneuver, and then, if needed, clarify the check on the blank score sheet provided at the end of each route. (This clarification would take place after the test has been administered, or during change of drivers.) The following are some examples of unprogrammed checks, which should be entered on the blank score sheets provided at the end of the route.

EMERGENCY VEHICLES

The student should be checked "Pass" for the "Task" if he yields the right of way (pulls to the right and stops) to emergency vehicles. If the student fails to make an appropriate response, or fails to make any response at all when confronted with an emergency vehicle, he would be checked "Fail" for "Task" on the blank score sheet provided at the end of the route.

YELLOW LIGHT

This check is made when a traffic signal changes from green to yellow as the student enters the intersection. If the student can safely accelerate through the intersection, he should do so. If he cannot safely accelerate through the intersection, he should avoid stopping so abruptly that he endangers following traffic.

Unprogrammed Checks (Continued)

LANE BLOCKAGE

The student should respond appropriately and well in advance if the travel lane is blocked ahead. The student should be checked "Fail" for this task if he becomes unnecessarily trapped by a lane blockage, or if he forces his way into other traffic, causing other vehicles to adjust to him.

ANY EVENT CALLING FOR A HAZARD RESPONSE

ADDITIONAL OBSERVATIONS

Any additional observations or driver errors which could have had an adverse effect upon the safety of the driver or others should be detailed on the blank score sheet provided at the end of each route.

Appendix E

GENERAL DRIVING KNOWLEDGE (ATTITUDE) TEST

Test Administration Guidelines

General Driving Knowledge Test

TEST ADMINISTRATION GUIDELINES

GENERAL DRIVING KNOWLEDGE TEST

PURPOSE:

The General Driving Knowledge Test is intended to be an indirect measure of student attitudes toward safety in driving.

TEST ADMINISTRATION:

Dates: Prior to exposure to course materials (i.e., during Unit 1) and upon completion of the course (after Unit 8).

Time Required: 10-15 minutes

Materials Required:

(1) One test for each student

(2) One set of instructions and an answer sheet (IBM) for each student

(3) One #2 pencil for each student

INSTRUCTIONS TO STUDENTS:

"Today you will be taking a test on driving knowledge. This test, though, is not to find out whether you remember specific facts, but rather to see how well you understand what goes into making a safe driver.

"It is important that you work individually and quietly. I am going to hand out the test now. Please don't start until I say so." (Hand out tests with instructions and answer sheet clipped to the front of the test, and pencils)

"Detach the answer sheet from the test and read the instructions carefully. (pause) Are there any questions?" (pause)

"Remember - For each question, choose the ONE answer you consider to be the BEST answer.

- Put your answers only on the answer sheet.

You have 15 minutes to complete the test. You may begin."

GENERAL DRIVING KNOWLEDGE TEST

INSTRUCTIONS
(To be attached to the front page of each test)

Please use the pencil provided

Take the Answer Sheet and: Where it says NAME write your name

Write the name of your SCHOOL on the answer sheet

Write today's DATE on the answer sheet

When you take the test, you should: Pick the answer for each question that seems to you to be the BEST answer

Fill in the blank corresponding to the correct answer ON THE ANSWER SHEET

Not write on the test itself

EXAMPLE: 1. Dirty windshields:

a) lead to eye strain

b) can cause accidents

c) are an annoyance

If you think "c", "are an annoyance," is the best answer, you would find the number "1" on the answer sheet and then fill in the blank next to the letter "c".

GENERAL DRIVING KNOWLEDGE TEST

This is a test to find out how much you know about driving. It is not to find out whether you remember specific facts, but rather to see how well you understand what goes into making a safe driver.

Please look at each item and pick out the answer that seems to you to be the best answer. On the answer sheet, fill in the space that corresponds to the answer you have chosen.

1. Pulling away quickly:

   a. Is a waste of gas.
   b. Can sometimes cause an accident.
   c. Is a sure sign of an unsafe driver.

2. Bad tires:

   a. Can make the car hard to handle.
   b. Call for slower speeds.
   c. Are a major cause of accidents.

3. Changing lanes frequently in traffic:

   a. Calls for alertness.
   b. Is a sign of impatience.
   c. Is a major accident cause.

4. The number of injuries that could be prevented by the use of seat belts each year is:

   a. 50,000
   b. 200,000
   c. 500,000

5. NOT coming to a complete stop at a stop sign:

   a. Is illegal.
   b. Can cause an accident.
   c. Is extremely unsafe.

6. People who get speeding tickets:

   a. Generally tend to drive more than people who don't.
   b. Tend to be unsafe drivers.
   c. Are the ones who cause most of the accidents.

7. Driving in bad weather:

   a. Requires extra caution.
   b. Tends to be hazardous.
   c. Should always be avoided if possible.

8. Which is the truest statement concerning speed and safe driving:

   a. To drive fast requires alertness.
   b. The faster you drive, the greater your chances of having an accident.
   c. People who speed cause most of the accidents.

9. Concerning drinking and driving:

   a. You can drive safely if you are careful about the way you drink.
   b. Just a small amount of alcohol can make you unsafe.
   c. Never drive if you've had anything to drink.

10. When passengers in a car become a nuisance, the best thing to do is:

   a. Not let it distract you.
   b. Tell them to stop it.
   c. Pull to the curb and refuse to continue until they stop.

11. If someone is "tailgating" you, the best thing to do is:

   a. Tap your brakes a few times as a warning.
   b. Slow down and make the tailgater pass.
   c. Pull over and let him pass.

12. When you come to kids playing by the side of the road, you should:

   a. Sound your horn to let them know you are coming.
   b. Pass them very slowly.
   c. Sound your horn and wait until they stop playing before you continue.

13. You are passing a car on a two lane road. As you pull alongside, you see a truck in the distance. You should:

   a. Complete the pass as quickly as possible.
   b. Speed up or slow down depending upon what the other car does.
   c. Slow down and drop back into lane.

14. When waiting at a red light, you should:

   a. Keep an eye on the light and be ready to move as soon as it turns green.
   b. Keep an eye on cross traffic and move out when you notice the light has changed.
   c. Wait until traffic stops completely before you start to move out.

15. The best frame of mind for good driving is:

    a. Relaxed.
    b. Confident.
    c. Wary.

16. If you are driving a small car, you should leave a following distance that is:

    a. Shorter than if you were driving a full size car.
    b. The same as if you were driving a full size car.
    c. Longer than if you were driving a full size car.

17. The best driver is one who:

    a. Minds his own driving and lets others worry about theirs.
    b. Gives others credit for being safe drivers.
    c. Assumes that others are basically unsafe drivers.

18. Having an accident:

    a. Is something that happens to everyone sooner or later.
    b. Means your driving could stand improvement.
    c. Is a sure sign of unsafe driving.

19. Which is the truest statement concerning speed and safe driving:

    a. To drive fast requires alertness.
    b. Driving fast increases the chances of an accident.
    c. Driving too fast is a major cause of accidents.

20. Driving 12 hours in one day:

    a. Is safe if you are well rested.
    b. Is not a good idea if you can help it.
    c. Is asking for trouble.

On this part of the test, there are no right or wrong answers. Read the statements below and pick one of the following words that best says how you feel about the statement:

A. Always
B. Usually
C. Sometimes
D. Rarely
E. Never

Fill in the space on your answer sheet that corresponds to the word you have chosen to fill in the blanks in the statements below.

21. I feel that young people are _____ much better drivers than are middle-aged people.

22. I feel that policemen are _____ sincere in enforcing traffic laws.

23. I _____ feel full of pep when I get behind the wheel.

24. If I see a police officer, I am _____ more careful.

25. Over-careful drivers _____ cause more accidents than the so-called reckless ones.

26. I _____ get a feeling of real power when driving a car.

27. I _____ feel that slow drivers should be kept off the highways.

28. New drivers should _____ be required to take a course in driver education.

29. I _____ feel that unsafe drivers should be deprived of the right to drive.

30. I _____ feel that accidents (mishaps) don't just happen; they are caused.

31. I _____ like to get everything out of a car that it has in it.

32. I _____ feel that the chief work of most policemen should be traffic control.

33. I _____ get impatient in heavy traffic.

34. Old, defective cars should _____ be kept off the road.

35. I _____ feel that drivers should be given more freedom in obeying traffic signs.

Continue using these choices:

A. Always
B. Usually
C. Sometimes
D. Rarely
E. Never

36. People should _____ drive when they are angry.

37. Passing on hills and curves is _____ exceedingly dangerous.

38. It is _____ necessary to stop at "stop" signs if no other cars are in sight.

39. I _____ like to put extras on my car to attract attention.

40. I _____ feel that police officers are rougher on teenagers than on adults.

41. Society should _____ have the right to question the way I drive.

42. Attitudes toward driving are _____ more important than ability to handle a car.

43. I _____ like to take chances when I'm driving.

44. I _____ feel that traffic laws are set up to promote safety.

45. Courtesy toward other drivers is _____ important.

46. I _____ feel somewhat nervous when I drive a car.

47. I _____ get more fun out of driving a car than in any other activity.

48. I _____ feel that I am more courteous than the average driver.

Appendix F

MASTER COURSE SCHEDULE

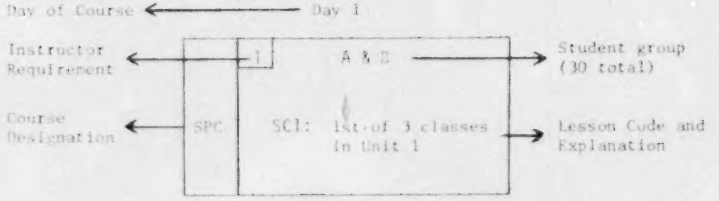
MASTER SCHEDULE

SPRING PILOT IMPLEMENTATION: SAFE PERFORMANCE CURRICULUM/PRE-DRIVER LICENSING COURSE

SCHEDULE KEY

SPC = Safe Performance Curriculum
PDL = Pre-Driver Licensing Course
A = 15 students (A_1 = 3 students; A_2 = 3 students; and so forth)
B = 15 students (B_1 = 3 students; B_2 = 3 students; and so forth)
Guided Learning = sessions in which students work individually or in small groups on special learning problems. Students may also "work ahead" in the course (e.g., by reading ahead or engaging in learning activities which extend beyond course requirements). These sessions appear under "class" category on the schedule.
Sim = Simulator Laboratory
Rg = Range
OS = On-Street
SH = Study Hall

SAMPLE



NOTE: Each lesson on the schedule is 55 minutes.

LESSON CODING SYSTEM KEY

Each lesson in the Safe Performance and Pre-Driver Licensing courses has a code number. The code is used primarily for the convenience of instructors and course administrators, and does not appear on student materials.

The first letter (either "S" or "P") in code designates { Safe Performance Curriculum or Pre-Driver Licensing Course }

The second letter (either "C," "S," "R," or "O") designates { Classroom, Simulator, Range, or On-Street }

The third item in the code is a number, designating the numerical placement of the lesson in the course. Therefore, SC1 would be the **first** class session in the Safe Performance Curriculum; PC4 would be the fourth class session in the Pre-Driver Licensing course; SO3 would be the third on-street session in the Safe Performance Curriculum; and so forth.

WEEK 1

Class

MODE	Day 1	Day 2	Day 3	Day 4	Day 5
SPC	1 A & B SC1: 1st of 3 classes in Unit 1	1 A & B SC2: 2nd of 3 classes in Unit 1	1 A & B SC3: 3rd of 3 classes in Unit 1	2 A & B SC4: 1st of 2 classes in Unit 2	2 B Guided Learning (Work on pseops; use LAP exercises, Ex. A from SC4, etc.)
PDL					

Laboratory

MODE	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH
SPC																	2 SS1 A 1 2 3 4 5			
PDL				A B 1 1 2 2 3 3 4 4 5 5				A B 1 1 2 2 3 3 4 4 5 5				A B 1 1 2 2 3 3 4 4 5 5				A B 1 1 2 2 3 3 4 4 5 5				A B 1 1 2 2 3 3 4 4 5 5

Week

Class

	Day 6	Day 7	Day 8	Day 9	Day 10
SPC	2 A Guided Learning (Work on preops: Use LAP exercises, Ex. A from SC4, etc.)	1 A & B SC5: 3rd or 2 classes in Unit 2	2 B Guided Learning (Long-range projects)		1 A (Class) Present Unit 3 information: lecture and discussion of LAP materials.
PDL					

Laboratory

MODE	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg		H	Sim	Rg	OS	SH	Sim	Rg	OS	H
SPC	2 SS1 3 1 2 3 4 5								2 SS2				1 S2 B 1 2 3 4 5	1 S2 A 1 2				1 R 1 2 3 4 5		
PDL				A B 1 1 2 2 3 3 4 4 5 5				A B 1 1 2 2 3 3 4 4 5 5				1 1 2 2 3 3 4 4 5 5				1 1 2 2 3 3 4 4 5 5				1 1 2 2 3 3 4 4 5 5

101

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Class

	Day 11	Day 12	Day 13	Day 14	Day 15
SPC	1 B (Class) Present Unit 3 information Lecture and discussion of LAP material.	2 A Guided Learning (Long-range projects)	1 A & B SC6: 1st of 3 classes in Unit 3		1 A & B SC7: 2nd of 5 classes in Unit 3
PDL					

Laboratory

Mode	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH
SPC		2 SR2 A 1 2 3 4 5				2 SR2 B 1 2 3 4 5							1 ES3 B 1 2 3 4 5	1 SR2 A 1 2 3 4 5						
PDL				A B 1 1 2 2 3 3 4 4 5 5				A B 1 1 2 2 3 3 4 4 5 5				A B 1 1 2 2 3 3 4 4 5 5				A B 1 1 2 2 3 3 4 4 5 5				A B 1 1 2 2 3 3 4 4 5 5

Class

	Day 16	Day 17	Day 18	Day 19	Day 20
SPC		1 $A_{3_c, 4, 5}$ & B Guided Learning (Unit 3 presentation/ preparation for on-street)	1 A & $B_{3_c, 4, 5}$ Guided Learning (Unit 3 presentation/ preparation for on-street)	1 $A_{1,2,3_{a,b}}$ & B Guided Learning (Unit 3 presentation/ preparation for on-street)	1 A & $B_{1,2,3a,b}$ Guided Learning (Unit 3 presentation/ preparation for on-street)
PDL					

Laboratory

MODE	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH
SPC	1 SS3	2 SP3				2 SP6				2 SP4				3 SP4				3 SP4		
PDL				A B 1 1 2 2 3 3 4 4 5 5				A B 1 1 2 2 3 3 4 4 5 5				A B 1 1 2 2 3 1 4 4 5 5				A B 1 1 2 2 3 3 4 4 5 5				A B 1 1 2 2 3 3 4 4 5 5

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Class

	Day 23	Day 24	Day 25	Day 26	Day 27
SPC	1 A & B SC8: 3rd of 5 classes in Unit 3	1 A & B SC9: 4th of 5 classes in Unit 3			
PDL			1 * A & B PC0: Course Organization (Unit 1 content)		1 A & B PC1: 1st of 6 PDL classes (Unit 2 content)

Laboratory

MODE	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH
SPC	On-street Route Preview for 1 instructors				On-street Route review for 3 instructors						4 SO1 A B 1 1 2 3 4 5	A B 1 1 2 3 4 5			4 SO1 A 1 2 3 4 5	A B 1 1 2 3 4 5	1 SS4 A B 1 1 2 3 4 5		2 SO1 A B 1 5	B 2 3 4
PDL				A B 1 1 2 2 3 3 4 4 5 5				A B 1 1 2 2 3 3 4 4 5 5												

* Substitute instructor needed here.

Class

	Day 26	Day 27	Day 28	Day 29	Day 30
SPC	1 A & B SC10: 3rd of 3 classes in Unit 3	1 A & B SC11: 1st of 3 classes in Unit 4		1 A & B SC12: 2nd of 3 classes in Unit 4	
PDL					

Laboratory

MODE	Stn	Rg	OS	SH	Stn	Rg	OS	SH	Stn	Rg	OS	SH	Stn	Rg	OS	SH	Stn	Rg	OS	SH
SPC									1 SC4	SC5								SPC	SH	
PDL												A				B				

Day 31
Day 32
Day 33
Day 34
Day 35
SPC
PDL
SC13:
SC14:
SC15: 2nd of 7 classes in Unit 5
A & B
Laboratory
MUDL
SH
OS
Par
Stir
PS1
PS2
SS1
SS2
SS3
SS4
SS5
* Substitute instructor needed here.

Week 8

Class

	Day 36	Day 37	Day 38	Day 39	Day 40
SSC		1 A & B SC16: 3rd of 7 classes in Unit 5	2 B Guided Learning	1 A & B SC17: 4th of 7 classes in Unit 5	1 A Guided Learning
PDL	1 A & B PC2: 2nd of 6 PDL classes (Unit 5 content)				

Laboratory

CODE	Sim	Pg	OS	SR	Sim	Pg	OS	SH	Sim	Pg	OS	SH	Sim	Pg	OS	SH	Sim	Pg	OS	SH
SSC		2 SR6 B 1 2 3 4 5		A 1 2 3 4 5						2 SR6 A 1 2 3 4 5								2 SR7 A 1 2 3 4 5		
PDL						2 PR1 A 1 2 3 4 5		B 1 2 3 4 5				A & B 1 1 2 2 3 3 4 4 5 5		2 PR2 B 1 2 3 4 5		A 1 2 3 4 5				A & B 1 1 2 2 3 3 4 4 5 5

Class

	Day 41	Day 42	Day 43	Day 44	Day 45
SPC		1 A & B SC18: 5th of 7 classes in Unit 5		1 A & B SC19: 6th of 7 classes in Unit 5	
PDL					1 A & B PC3: 3rd of 6 PDL classes (Unit 3 content)

Laboratory

MODE	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH
SPC		2 SR7 A 1 2 3 4 5	2 S03 B 1 2	B 3 4 5						2 SR8 B 1 2 3 4 5	2 S03 A 1 2	3 4 5						2 * SR8 A 1 2 3 4 5	2 S03 B 3 4	B 1 2 5
PDL				A & B 1 2 2 3 3 4 4 5 5		2 PR2 A 1 2 3 4 5		B 1 2 3 4 5				A & B 1 2 2 3 3 4 4 5 5		2 PR2 B 1 2 3 4 5		A 1 2 3 4 5				

* One substitute instructor or an aide needed here.

Class

	Day 46	Day 47	Day 48	Day 49	Day 50
SPC		2 A & B SC20: 7th of 7 classes in Unit 5		2 A & B SC21: 1st of 4 classes in Unit 6	
PDL					

Laboratory

MODE	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH
SPC		2 SP9 A B 1 1 2 3 4	2 S03 A 5 B C	A 2 3 4						2 SP9 A D 2 5 3 4 5	2 S04 B 1 2	A B 1 3 4							4 S04 A 1 2 3 4	A & B 5 1 2 3 4 5
PDL				A B 1 2 2 3 3 4 4 5 5		SP3 A 1 2 3 4 5		B 1 2 3 4 5				A B 1 2 2 3 3 4 4 5 5		TP6 B 1 2 3 4 5		A 1 2 3 4 5				A & B 1 1 2 2 3 3 4 4 5 5

WEEK 11

Class

	Day 51	Day 52	Day 53	Day 54	Day 55
SPC		1 A & B SC22: 2nd of 4 classes in Unit 6		1 A & B SC23: 3rd of 4 classes in Unit 6	
PDL					

Laboratory

	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH
SPC			4 S04 B A 3 5 4 5	A & B 1 1 2 2 3 4							4 S05 A 1 2 3 4	A & B 5 1 2 3 4 5							4 S05 A & B 5 1 2 3	A & B 1 4 2 5 2 4
PDL				A & B 1 1 2 2 3 3 4 4 5 5		3 PP4 B 1 2 3a,b		B & A 3c 1 4 2 5 3 4 5				A & B 1 1 2 2 3 3 4 4 5 5		3 PP4 B 1 2 3a,b	A & B 3c 1 4 2 5 3 4 5				A & B 1 1 2 2 3 3 4 4 5 5

Class

	Day 56	Day 57	Day 58	Day 59	Day 60
SPC	1 A & $B_{2,3}$ Guided Learning	1 A & B SC24: 4th of 5 classes in Unit 6	1 A & B SC25: 1st of 5 classes in Unit 7	1 $B_{1,4,5}$ Guided Learning	
PDL					1 A & B PC4: 4th of 6 PDL classes (Unit 3 content)

Laboratory

	Stn	Rg	OS	SH	Stn	Rg	OS	SH	Stn	Rg	OS	SH	Stn	Rg	OS	SH	Stn	Rg	CS	SZ
SPC			2 SC5 B 4 5 1 SC6 6 7										1 SC5 A 1 2 3 4 5		2 SC6 B 2 3		1 SR6 B 1 2 3 4 5	2 SR10 A 1 2 3 4 5		
PDL				A B 1 1 2 2 3 3 4 4 5 5		1 PR4 B 3c 4 5		2 & A 1 2 3a b		1 PR4 A 3c 4 5		A & B 1 1 2 2 3 3 a, b 4 5				A & B 1 1 2 2 3 3 4 4 5 5				

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WEEK 1

Class

	Day 01	Day 02	Day 03	Day 04	Day 05
SPC	1 A Guided Learning	1 A & B SC26: 2nd of 2 classes in Unit 7	1 B 1,2,3,5 Guided Learning	1 A & B SC27: 1st of 3 classes in Unit 8	1 A 2,3,4,5 Guided Learning
PDL					

Laboratory

MODE	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH
SPC		2 SR10 B 1 2 3 4								2 SR11 A 1 2 3 4 5	1 SO6 A 1							2 SR11 B 1 2 3 4 5	1 SO6 A 1	
PDL				A B 1 1 2 2 3 3 4 4 5 5			3 SO1 A B 1 1 2 2	A B 2 3 3 4 4 5 5												A & B 1 1 2 2 3 3 4 4 5 5

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Class

	Day 66	Day 67	Day 68	Day 69	Day 70
SPC		1 A & B SC28: 2nd of 5 classes in Unit 8		1 A & B SC29. 3rd of 5 classes in Unit 8	1 $A_{1,2}$ & B Guided Learning
PDL			1 A & B PC5: 5th of 6 PDL classes (Unit 3 content)		

Laboratory

MODE	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH
SPC		2 SR12 A 1 2 3 4 5	1 SO6 B 5	B 1 2 3 4						2 SR12 B 1 2 3 4 5	1 SO6 A 2	A 1 3 4 5							3 SO6 A 3 4 5	
PDL			1 PO1 B 4	A & B 1 2 3 4 5 1 2 3 5			3 PO1 A 4 5 B 5	A 1 2 3 B 1 2 3 4							2 PO2 A 1 B 1 2 A 2 3 4 5 B 3 4 5					A 1 2 3 4 5 B 1 2 3 4 5

WEEK 15

Class

	Day 71	Day 72	Day 73	Day 74	Day 75
SPC	1 A & B 3,4,5 Guided Learning	1 A 3,4,5 & B Guided Learning	1 A & B 1,2,5 Guided Learning	1 A & B SC30: 4th of 5 classes in Unit 8	
PDL					1 A & B PC6: 6th of 6 PDL classes (Unit 3 content)

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Laboratory

MODL	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH
SPC			2 S07 B 1 2				2 S07 A 1 2				2 S07 B 3 4								2 S07 A 3 4	A & B 1 1 2 2 5 3 4 5
PDL			1 P02 A 2	A & B 1 1 3 2 4 3 5 4 5 5			1 P02 B 3	A & B 1 1 2 2 3 3 4 4 5 5			1 P02 A 3	A & B 1 1 2 2 4 3 5 4 5 5			3 P02 A B 4 4 5 5	A B 1 1 2 2 3 3 5				

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WEEK 16

Class

	Day 76	Day 77	Day 78	Day 79	Day 80
SPC	1 $A_{1,2,3,4}$ & $B_{1,2,3,4}$ Guided Learning				
PDL					

Laboratory

MODE	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH	Sim	Rg	OS	SH
SPC			2 S07 A B 5 5			4 SR13 A 1 2 3 4 5		B 1 2 3 4 5		4 SR13 B 1 2 3 4 5		A 1 2 3 4 5			4 S08 A 1 2 $3_{a,b}$	A B 3 1 4^C 2 5 3 4 5			4 S08 B 1 2 $3_{a,b}$	A B 1 3^C 2 4^C 3 5 4 5
PDL			1 P02 A 5	A & B 1 1 2 2 3 3 4 4 5 5				A & B 1 1 2 2 3 3 4 4 5 5				A & B 1 1 2 2 3 3 4 4 5 5			4 P03 A 1 2 $3_{a,b}$	A B 3 1 4^C 2 5 3 4 5			4 P03 B 1 2 $3_{a,b}$	A B 1 3^C 2 4^C 3 5 4 5

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WEEK 17

Class

	Day 81	Day 82	Day 83	Day 84	Day 85
STC			2 A & B SC31: 5th of 5 classes in Unit 8		
FDL				2 A & B PL7: Knowledge Post-Test; Administrative clean-up, etc.	

Laboratory

MODE	Stn	Sg	OS	SH	Stn	Pg	OS	SH	Stn	Sg	OS	SH	Stn	Pg	OS	SH	Stn	Pg	OS	SH
STC			4 S08 A 3 4C 5	A & B 1 1 2 2 3a, 3 b 4 5 5			4 S08 B 3 4C 5	A & B 1 1 2 2 3 3a, 4 b 5												
FDL			4 P03 A 3 4C 5	A B 1 2 2 3 3a, 4 b 5			4 P03 B 3 4C 5	A B 1 2 2 3 3 4 4 5 5 3a, b												

Appendix G

PROJECT STAFFING REQUIREMENTS

The project was staffed with an on-site project director, a curriculum administrator, eight research instructors, and three project aides (one aide was used "as needed").[1]

The project director was responsible for management, administration and supervision of on-site implementation activities. The curriculum administrator, in addition to his duties as instructional staff supervisor, provided administrative assistance to the project director.

Directly responsible for the implementation of the Safe Performance Curriculum pilot test were the eight research instructors. The instructors formed two teams of four, each headed by a team leader. The team leader was responsible for supervision of the instructors and para-professionals assigned to his team. (Para-professionals served as project aides.[2] The research program was conducted at three schools. For the Spring semester, both teams taught one hour each morning at Site A, then one team taught four hours in the afternoon at Site B, and the other team taught four hours in the afternoon at Site C.

The on-site personnel diagram on the following page and the job description narratives which follow it provide additional information concerning the requirements for on-site staffing.

The Project Director was responsible for management, administration and supervision of the project staff. Duties included the following: supervision of teacher training, guidance and evaluation; data collection and analysis; recruitment and hiring of staff; maintenance and management of equipment and facilities associated with the project; and preparation of monthly progress reports covering both technical and financial affairs.

The Curriculum Administrator was responsible for the daily administration of the on-site implementation of the project. Specific tasks and responsibilities included: coordination of in-service teacher training; supervision of para-professionals; management and coordination of teams and team leaders; substituting for teachers and for para-professionals as needed; supervision of security for project facilities and equipment; and general supervision of both curricula.

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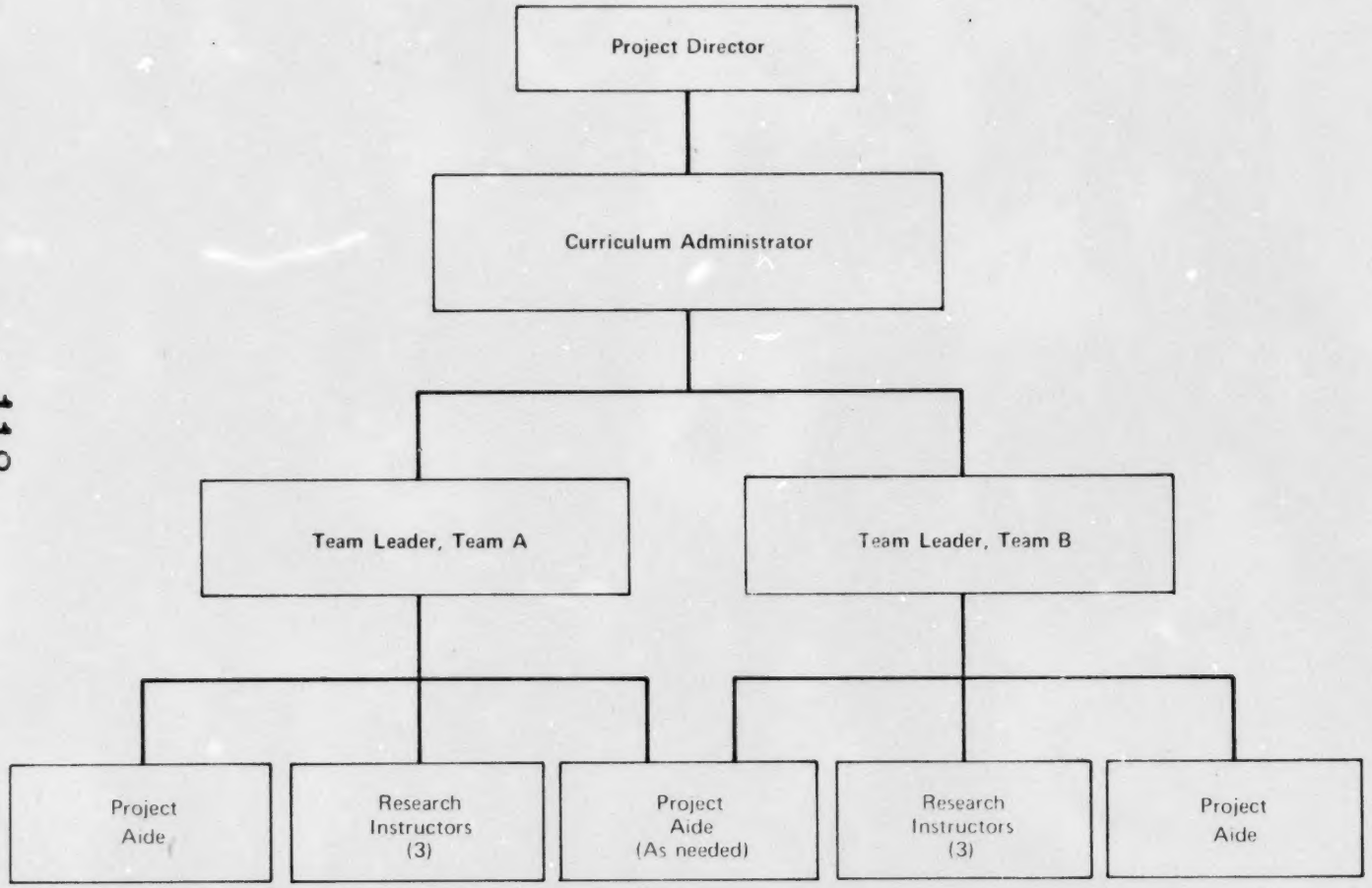
[1] In some cases, the schedule called for ten instructors (five at each pilot test school). When this occurred, substitute teachers from Central Missouri State University, the subcontractor for this project, were used.

[2] Experience with the project has shown that research instructors were overburdened with non-teaching duties (e.g., shuttling cars, setting up and taking down ranges, etc.); thus the use of project aides.

On-Site Personnel



The Team Leaders were responsible for providing organizational leadership for the instructional teams. Specific responsibilities included: conducting planning and operational meetings for the teams; coordinating the teaching schedule for their school; scheduling the Instructional Assistant and the Project Aide(s) where applicable; serving as the liaison with the high school administration; maintaining a current inventory of equipment and supplies assigned to their teaching location; acting as liaison with teaching staff supervisory personnel and project staff; coordinating all team reports and grades for the school, the district and the project as requested; and conferring with the Curriculum Administrator concerning project supplies and curricula needs. In addition to providing organizational leadership, the Team Leader had primary responsibility for the structuring of Guided Learning activities. The more specific responsibilities related to the area of Guided Learning were: seeing that student progress charts were being used and constantly being updated; noting possible changes in the progress charts which could add to accuracy as well as efficiency; using instructor input toward developing the most effective learning program for a specific student; coordinating long-range projects; and conferring with the Curriculum Administrator concerning any or all of the above areas.

The Research Instructors were responsible for providing instruction to the high school youth assigned to the project and for meeting the objectives of both the Safe Performance and Pre-Driver Licensing Curricula. Specifically, this includes classroom, simulation, multiple-vehicle range and on-street instruction, out-of-class activities and guided learning activity coordination. Other responsibilities included: administration of knowledge and performance measures and collection of data related to test administration; maintenance of student progress and attendance records; within-team discussion of student progress and determination of student activities dependent upon student ability and need; design of guided learning activities to answer student deficiencies; consultation with instructor training consultants on teaching techniques and teaching competencies; submission of reports and final grades to the local school and to the Project Director; attendance of in-service meetings in addition to regular staff meetings; and the proficient use of project equipment, facilities and supplies.

Qualifications for instructors are discussed in detail in the Technical Findings report prepared under this contract. In general, the following recommendations were made:

> Instructors should have an extensive background in driver education, particularly in the areas of range and on-street instruction.
>
> Instructors should know how to conduct multimedia and simulator sessions. This involves understanding the lesson objectives and subsequently matching objectives with the film content; monitoring student feedback; tabulating scores; and evaluating responses.
>
> Instructors must have the capability to "individualize" instruction--that is, to monitor the progress of each student throughout each of the modes of the Safe Performance Curriculum and to ensure, through the most

efficient means, that the learning needs of each student are matched with the appropriate educational resource.

The Project Aide was responsible for performing multiple tasks which included: chauffeuring students when needed, keeping range vehicles operational, assisting in range set-up and break-down, running project errands, assisting with clerical duties, keeping vehicles and range areas clean and gassing project vehicles. The Project Aide also performed a variety of additional duties as assigned by the Team Leader or by the Curriculum Administrator.